

**HOME** 1-5  
Artificial intelligence unit planned  
Westfield merger talks with QMC  
Youth training forum to be  
established  
Auditors get tough with  
consultancies

**OVERSEAS** 6-7  
New Austrian education minister  
takes over  
US-Soviet exchanges hit by airliner  
shooting  
Foreign students in Pakistan face  
massive fee increases  
Norwegian universities face  
unexpected austerity

**ARTICLES** 8-11  
John O'Leary analyses the  
undercurrents of the NAB;  
and Karen Gold discusses the CNA  
report on the Polytechnic of  
North London's sociology  
department, 8  
Felicity Jones samples Middlesex  
Polytechnic's Dip HE summer  
school, 9  
Gerard Connolly describes the  
significance of the Oxford  
Movement 150 years after John  
Keble's founding sermon, 10  
Farewell to the Social Science  
Research Council: Michael  
Posner looks back on the strains  
and successes of his  
chairmanship, 11

**ARTS** 12  
Roger Silverstone reviews a new  
film about advertising; Brian  
Morison discusses an exhibition of  
the avant-garde at the Pontonville  
Gallery; and Rupert  
Christiansen describes the  
National Sound Archive

**BOOKS** 13-23  
John Cruickshank reviews two new  
books by Richard Cobb, about  
the French and about himself, 13  
Frank Stack discusses Blake and  
Wordsworth and Isabel Rivers  
reviews a study of religious  
typologies in England between  
1650 and 1820 (14), R. E.  
Passingham reviews *Promethean  
Fire* by C.J. Lumsden and E.O.  
Wilson (17).

**ECONOMICS BOOKS** 18-23  
Sterling devaluations, tax policy,  
the West German economy, oil,  
eastern Europe, Japanese  
multinationals, and the Common  
Market are among the subjects of  
new books in economics.

**NOTICEBOARD** 24

**CLASSIFIED INDEX** 25

**OPINION** 30-32  
Ernest Boyer discusses the danger  
of too close an embrace between  
industry and university research;  
Jack Straw MP argues the case  
for local democracy; and Douglas  
Diary from Raymond Wacker of  
the University of Natal, 30  
Letters on NAB's weighting  
scheme, extra-mural studies, and  
the City University and "Unlous  
View" from *Thru Day of the  
AUT*, 31

## Next Week

Korean studies: promises and  
pitfalls  
Anthony Thorby on Rilke  
The Class of '83  
David Levy on Hans Jonas  
New books in biological sciences



HIGHER EDUCATION SUPPLEMENT  
Priory House, St John's Lane, London EC1M 4BX. Telephone 01-253 3000

## The politics of the seaside

The party conference season is always a time for nostalgia – but this year the retrospective mood is stronger than ever. Partly it is the time of year; late summer is always a season of a few regrets. Partly it is the time in which the political parties as creatures of habit always meet: Brighton, Blackpool, Harrogate, the names themselves suggest a time that is always at least 20 years ago, although by going to Salford the Social Democrats have sent out a now and ambiguous message – half *Hard Times*, half new technology.

For higher education the nostalgia produced by this party conference season has a double intensity. First there is the sharpening sense of loss of a time, now impossibly remote and so impossibly sweet, when higher education was (almost) apolitical. Until just ten years ago the leaders of higher education paid perhaps arrogantly little attention to the turmoil of the political life of the nation. Governments came and went, parties rose and fell, while higher education went on, and up, for ever. The very rhythm of university affairs, the dignified succession of planning quinquennia presided over by a gentle and benign University Grants Committee, did not really engage the much more rapid and emotive pace of political life.

The development of the polytechnics and colleges, once the binary class had hardened in the mind 1960s, became the detailed business of civil servants, an almost obscure subplot in the larger play of the ebb and flow in relations between central and local government. In both cases the (party) politicians seemed to play little part, except to the extent that they accepted the prevailing context for policy and agreed to become expert practitioners in its manipulation. So higher education appeared almost unruffled by the crude political passions that won and lost elections.

It was an illusion, of course, but a grand illusion. Higher education has always been an intensely political business and our modern system is the product of a series of deliberate political acts; the first tentative steps towards a state subsidy before the First World War, the creation of the UGC in 1919 (and the expansion of its role in 1946), the investment in technical education in the 1940s and 1950s, the expansion of the universities in the 1960s, the development of the binary system and so on. Yet it was backward rather than forward politics: and it was bipartisan politics in the important sense that all Governments between 1945 and 1979 shared similar attitudes to higher education, positive if not always supportive, respectful if not always deferential. Managerialism was almost everything, and ideology almost nothing.

The second component of higher education's mood of nostalgia is one that is commonly shared. It is that the mould of British politics has been broken, although hardly along the lines of fissure envisaged by the Liberals and the Social Democrats. The Labour Government of 1974-79, the first Labour Government since 1945, has remained faithful to the tradition of an even and pragmatic contest for power. This British experiment

ence was in sharp contrast to that in Italy (and until the 1960s Germany and until the 1970s France) where a united right and a splintered left led to the permanent success of the former, or in Scandinavia where the reverse conditions produced a permanent victory for the left.

Today the future prospect of British politics has been transformed. The left has splintered with the creation of the Social Democratic Party and the endless right has been within the Labour Party; the right has held together despite the exile of Carrington, Pym, Whitelaw (and Prior?). Anything of course can happen in politics and happen very quickly. But the best guess today is that the present Conservative Government and its successors will last until at least the end of the 1980s. When it finally falls, it is more likely to be the result of political exhaustion than of the action of its opponents.

This sombre political outlook, combined with higher education's fall from political grace, may well establish the context in which universities, polytechnics and colleges will have to operate during the rest of the 1980s. That does not necessarily mean that they should prepare for the onslaught of more cuts. The present Government has no strong interest in undermining higher education, any more (or less?) than in scrapping the National Health Service. But it does mean that the twin drives towards efficiency and utilitarianism will probably intensify. Nor will it help to look to Mr Kinnock, or to a rather longer time scale Dr Owen and/or Mr Steel, for deliverance; there is no strong evidence that they dissent from these two priorities.

Nostalgia of course is a seductive mood – especially if it is mixed with anger. There are still many people in higher education, particularly perhaps in universities, who deny that the good old days when alternately benign Butts, Keblett Governments laid higher education alone (and paid its bills) have gone for ever. They believe that they can be made to return by an effort of rhetorical will. It is this unrealistic spirit that mars the otherwise useful book *The Attack on Higher Education* by Maurice and David Kogan (page 2). By accusing Sir Edward Parkes and his UGC colleagues of appeasement the authors imply that less traumatic but equally feasible policies were available.

Sir Edward Parkes leaves the UGC today to become vice-chancellor of Leeds University. He has had to suffer more abuse than any previous chairmen of the committee, although nothing less could be expected considering the traumatic decisions the UGC has been forced to take. To the Kogans he is an collaborator; in last Sunday's *Observer* the accusation was of "the view from inside Government". The view from inside Government is very different. It is of a man and a committee that showed great skill in determining just how much pressure could be applied to ministers without any real risk of their being determined to keep the Government's nose out of the details of university affairs.

## Campus guide for consumers

The colour magazines of Sunday newspapers are ruled by the great fairs of consumerism – Motor Show, Boat Show, any show. Each one has to be duly celebrated in the pages of consumer magazines. Now entry into higher education has been pressed into the same mould. Both *The Sunday Times* and *The Observer* have, in their four successive weeks, and *The Observer* in a rather more skilful one-off attempt, have offered a consumer's guide to universities and colleges. It is easy to be amused by attempts such as "Reading claims the lowest incidence of VD in the country". Such a claim to be helpful, but what Edinburgh they may have found, a

The UGC did what it could, but damage was still done by the cuts of the winter of 1980/81. That damage is not less because it has not led to the avalanche of closures and redundancies that were gloomily forecast. Instead it is working away silently inwardly, sapping morale and undermining quality. It is this second thesis in the Kogans' book, that the long-term effect of the cuts may be to diminish dramatically the intellectual creativity of the universities, that must be taken very seriously.

The danger signals are already there. The older generation of university teachers who entered the profession before the great Robbins expansion has been lopped off by early retirement. The "cave blood" programme has attracted disappointingly small fields of candidates in some cases, perhaps because an academic career is no longer an attractive prospect for the scale of the brightest. In any case the scale of the programme is so small that it can hardly begin to have a serious impact on the age structure of university teachers. So universities are now staffed to a much greater extent than two or three years ago by the "bulge" generation of teachers recruited in the 1960s, a generation that may find it particularly difficult to adjust to the steady-state and contraction conditions of the 1980s.

Meanwhile back at the seaside no one worries about such questions. Politicians may have lost their former fastidiousness about interfering in the internal affairs of higher education, but they have gained no new consuming interest in universities, polytechnics and colleges. There is apparently no symmetry between interference and interest.

In its present rather masochistic mood higher education may be tempted to blame itself for the politicians' lack of interest and commitment. In fact it may say far more about the state of the nation. The record of history suggests that universities flourish in times of great social change and intellectual excitement, when old customs and values have been successfully challenged and now ones are in vigorous competition. It is in such times that the mind of man is set free.

So it is not surprising that universities flourished from 1560 and 1660 between the Reformation and the ascetic revolution, again during the nineteenth century, and the dual impact of enlightenment and industrial revolution, and after 1945 when cultural pessimism, rapid scientific and material progress, and a new social revolution came together to produce similar conditions of uncertainty and excitement.

Perhaps the 1980s, as well as being years of political reaction, will be rather predictable and boring, a period when new ideas are frowned upon and social and economic change only reluctantly accepted. Under these conditions there might be less interest in universities, as universities whatever may be the demand for them as centres of applied research and advanced learning. To adapt the AUTE slogan, Britain might need its universities more but want them less.

life-style. So there should be no surprise that it now rubs shoulders with the Motor Show in the colour magazines. But there is another sense in which such guides need to be taken seriously. Once information about higher education could be communicated to a relatively small and homogeneous population of potential students through private even informal networks. Today higher education is trying to attract students from a large and heterogeneous population. It needs new communications networks. Mass higher education must expect to be used by the mass media rather than its more sheltered past.

## Laurie Taylor



Now, Dr Piercemuller. Let's go straight to the point, shall we? What precisely is this invention which you like to exploit in the coming year? I think it's a completely original, the ebaecellor.

Exactly the sort of thing we're looking for, Piercemuller. As you know, it is on this committee are right before the Prime Minister's Initiative on its matter. What was it *The Times Higher Education Supplement* called last? Yes, "Thatcher, Mother of Invention". Very apt. Very apt.

Yes, indeed, Mr.

So what do you want to take out of the market place, Piercemuller? Well, sir, it's a fairly simple and straightforward in a way.

All the better for that, Piercemuller, bet that's what Stephenson said about the Rocket, eh, burst? Or Ford about the Lizzie.

Yes, sir.

Well what's the name of your particular discovery, Piercemuller?

Yes, Go on. That's it, sir. "Anomic re-differentiation".

I'm sorry, Piercemuller, I caught a phrase but I don't quite understand what it does. Is it something like Information technology area?

No, no, sir. It's a "concept".

A concept?

Yes, I think I see the general idea. And tell me, Piercemuller, do you have high hopes for this... concept?

Oh yes, sir. If I patent it now and use only allow its use in journals and the basis of a fixed royalty – I was thinking of 20p a mention – then I should soon be into profit. Using the same figure for the concept "anomic", I've calculated that its inventor Durkheim would have been richer by £43,000 if *Thatcher* ideas had been prevailing during his lifetime, while Marx would have cleaned up £197,000 with "education" alone.

Asounding. Piercemuller. They abounding. Thank you, sir.

Look, just one little thing before you expose yourself to the full heat of market forces. Do you think you could possibly pop back a little later – say five o'clock – to act as a sort of subject for the burger's own little invention?

Certainly, sir.

It's what he calls his involuntary Mr dundunoy Machius.

Will it take long, sir? You see I do have rather.

No, not at all, Piercemuller. Simply itself. Right up your street.

Oh, jolly good.

You simply stand on the trapdoor for a couple of moments and the plan is the rest. Next candidate please.

## The Times Higher Education Supplement

October 7, 1983 No 570 Price 50p

## Sir Keith calls for validation probe after critical HMI report

by Karen Gold

Her Majesty's Inspectorate this week extended its critical report on staff and students at the Polytechnic of North London, to question the ability of external validation to maintain academic standards in public sector higher education.

An inquiry into the validation, teaching and design of non-university degrees is being considered by Sir Keith Joseph, Secretary of State for Education and Science, using the PNL report as a basis.

The report on the polytechnic's BA degrees in sociology and applied social studies, both validated by the Council for National Academic Awards, says staff there spoon-fed a narrowed down syllabus to students, many with non-

traditional entry qualifications, encouraged a casual atmosphere and made it almost impossible for anyone to fail a degree.

It is an account of a visit by an HMI team to the school of applied social studies and sociology in May this year, prompted at short notice (though scheduled for later in the year) by a series of allegations about left-wing bias and academic irregularities.

A counter-report, issued by the two heads of department in the school, says that the HMI report is ill-timed and badly researched; the inspectors came over a bank holiday and during revision periods; both the degrees they looked at ended this summer and had been rewritten before being revalidated by the CNA in February this year; the team included only one sociologist – compared with two historians and a biologist – and they

failed to understand the circumstances and development of mature students.

But the inspectorate is understood to believe that the lack of academic and atmospheric rigour encountered at PNL is likely to exist in many other institutions, and has not been discovered because of the small size of their higher education operation. They question whether validation can adequately monitor what is taught to students.

Dr Edwin Kerr, chief officer of the CNA, said the council know of no evidence that any students had been awarded degrees which they did not deserve. It would be happy to help with broad inquiry into underlying issues such as the proper balance between allowing institutions reasonable freedom and maintaining proper vigilance about standards.

However the council would be unhappy with narrowly focused inquiry that concentrated on the two PNL degrees.

The polytechnic and the Inner London Education Authority have also attacked the idea of an inquiry concentrating on these two degrees; the ILERA has written back to Sir Keith asking him to explain what he has in mind.

The CNA is concerned about some aspects of the inspectors' report. Criticisms of first and second-year students are seen as inconsistent with their acknowledgement of their standard at graduation. There is also concern about the inspectors' own lack of experience in carrying out full-scale inspections of degree courses.

But the council is pleased that allegations of bias made by a former member of the polytechnic staff received no support.

Leader, back page

## Universities to increase intake with reluctance

by Ngao Crequer and Olga Wojtas

Universities will agree to the Government's request to take in more students, but reluctantly because of fears of the long-term erosion of their grant.

Their reluctance to condone a further cut in the unit of resource (expenditure per student) will be intensified by new evidence that the number of university students will only fall slightly over the next 15 years, despite a one-third decline in the number of 16-year-olds.

Ironically some of those universities which had the biggest cuts in 1981 may not be able to take more students because they have been forced to make huge economies in staff and buildings.

The University Grants Committee has asked the universities if they can admit additional students, "so far as possible" in vocational and technological subjects in 1984/85, without extra resources.

"It will be for you to judge the continuing effect on your unit of resource," the UGC will decide which of the university offers it will take up.

Lord Flowers, chairman of the Committee of Vice-Chancellors and Principals, said members had agreed to see which universities and which departments had any spare capacity. But he warned they would not lower their standards.

The CVCP has challenged Department of Education and Science figures on projected demand for higher education by the end of the century. In its

recent *Report on Education Number 99* the DES predicted that total numbers in higher education would fall in the mid-1990s by between 14 and 19 per cent below current levels.

But the CVCP estimates that the decline in university numbers alone is not expected to be more than 8 per cent.

They say the DES has not taken sufficient note of social class differences in birth rate, increasing participation by women students, improvements in sixth-form numbers and the popularity of universities over polytechnics.

Other vice-chancellors echoed Lord Flowers' sentiments this week as they arranged urgent consultations with their senates. They must reply to the request by the end of this month.

Some universities may be unable to help, Professor John West, vice-chancellor of Bradford said: "Bradford has had to make severe economies that we would probably not be able to find room for any more students at zero cost."

The same caution was expressed by Professor John Ashworth, vice-chancellor of Salford. "The Government is three months too late. We stuck out for 3,000 students until the end of last year but the UGC was adamant. So we began to rearrange our buildings and we have consultants in now planning how to demolish our tower block."

Professor Randolph Quirk, vice-chancellor of London University said: "Every additional tutorial means a reduction somewhere else. But we will look upon the admission of well-qualified students as something of the highest importance."

Sir Alwyn Williams, principal of Glasgow University who has been campaigning for several years to have intakes increased welcomed the UGC's latest and said Glasgow would hope to offer "some hundreds" of extra places.

Dundee University was last year fined for oversubscribing the UGC's intake target, but principal Dr Adam Neville says he would hope to take in more students. "I think that we should stick to the traditional role of the UGC giving us a block grant, and leaving it to the university to arrange how it is spent."

Sir Kenneth Alexander, principal of Stirling University, said he was anxious to take more students if possible. "But I rather think it will be limited because of the way it's being designed."

The Association of University Teachers condemned the "crazy lurches in policy" which last year fined universities for taking too many students and this year demands they take more, without more money.



Suppered: student union officers from Humber College on board its training vessel, which they had hoped to sail to London to lobby against the National Advisory Body's proposal to close nautical courses. Councilors have blocked the sea-going demonstration.

## Poly budgets may be based on old numbers

by John O'Leary

College and polytechnic budgets will be based on four-year-old student numbers if the National Advisory Body accepts a Department of Education and Science proposal.

Civil servants presented their "alternative approach" to next year's advanced further education pool allocations at a NAB working group meeting this week. It would have the effect of transferring money from the colleges to the polytechnics, with the "minor institutions" losing a total of £7m.

The proposals will be put to next week's residential meeting of the NAB board without a recommendation from the group, and are certain to cause a split between the sectors. Only two polytechnics (Plymouth and Teesside) would receive less money under the proposed new system, whereas 25 of the 32 "major" colleges would lose out.

The plan would mean the abandonment of the NAB's stated policy of basing budgets for 1984/85 on proposed student numbers weighted according to the academic programme. Institutions would receive their 1982/83 allocations unless their own proposals to the NAB had been varied.

Only then would the new weightings be used to compensate for additional student numbers or to determine the amount to be deducted.

Some allocations would need to be altered substantially, since the student numbers recommended by the NAB secretariat varied from institutional proposals by several hundred for most polytechnics. Coventry Polytechnic is given almost 2,400 students more than its proposal, while Plymouth and Hatfield both receive increases of more than 800.

However, many colleges are held to their responses. In which case their budgets would be based on student numbers for 1984/85 on expenditure from 1980/81.

continued on page 3

## Lecturers' leaders must set claim without new plans

by David Jobbins

Union leaders are unlikely to see plans for changes in the further education salaries structure before they recommend the 1984 pay claim later this month.

The proposals from the local authorities had been promised for the autumn but the employers' side working party has unexpectedly referred back a first draft for further consideration.

Negotiations from the National Association of Teachers in Further and Higher Education are certain to be constrained by the 2 per cent Govern-

ment pay norm and the extent to which this is modified by earnings, offers and settlements elsewhere; both in the private and public sectors.

Relative offers of various packages against improvements in structure are still being evaluated. Union leaders may seek to turn away from the mixed percentage and flat rate claims of the past two years to a straightforward percentage claim.

Several members of the union's salaries team regard the flat rate element of last year's settlement as

£58 – as a token gesture towards the lower paid which diverted negotiating efforts away from the long term aspiration of automatic transfer from the Lecturer 1 to the Lecturer 2 scale.

But if the executive decides to consult the membership on a percentage claim, there is likely to be some pressure to introduce at least a flat rate element before the final decision is taken by the union's special conference in February.

Equally there would also be risk and file strong arguments against dropping the 1.715 factor from the salaries



## SERC to probe grants squeeze

by Jon Turney  
Science Correspondent

The Science and Engineering Research Council is worried about the number of grant applications it has turned down and has set up a study group to examine the effect of grant refusals on research groups.

Under the system of assessment set up by the SERC, proposed projects are graded by review committees and those passed in the "alpha" category used to be virtually guaranteed funding. But the proportion of alpha proposals receiving funds has been declining for several years.

In 1981/82, the SERC's science board, which channels most money into universities, was only able to back 87 per cent of alpha projects. Professor James Cadogan, chairman of the science board, then spoke of his regret that so many applications "so good as to merit award in all normal circumstances" went unsupported.

Since then the situation has been getting worse rapidly. Unpublished figures for 1982/83 show that only 75 per cent of alpha proposals were funded by the science board. As more grant applications are now being received each year, this means that hundreds of groups are making fruitless applications.

The council has now commissioned a study of the problem from a small

group under Sir Jack Lewis of Cambridge University. The group is visiting departments in areas of special concern to the SERC, including physics, chemistry, mathematics and materials science, to find out the consequences of the cash shortage.

The departments have been chosen from statistics already available at the SERC headquarters in Swindon which show which have suffered most.

Both the council and the science board are anxious to maintain university support which is being squeezed by rising costs of central facilities like the synchrotron radiation source at Daresbury. The problem also affects applicants to the engineering board, although not to the same extent.

Ironically, the effects of grant refusal include lack of access to central facilities, as well as gaps in the continuity of major research programmes in university departments and loss of postdoctoral students who cannot afford to wait to do their next piece of work.

The study group is due to report to the council by the end of the year, so its conclusions can be considered in time for next year's budget planning. The SERC may use the results to back a case to the Advisory Board for the Research Councils for more money for university support.



Some of the thousands (over 7,000 in a full year) of the British Council new overseas students reporting to the council's reception point at Victoria Station last week. Six hundred arrived during a four-day peak and flight delays of up to 20 hours meant that council staff were on duty round the clock at Victoria and headquarters.

## Craft of teaching literacy

Craft lecturers in further education colleges who find that their students have difficulties with literacy and numeracy are being asked by the Adult Literacy and Basic Skills Unit to help them with reading and writing on the spot rather than refer them to a specialist.

A project carried out at Bolton Technical College which resulted in the report "Literacy Skills: Standards and Demands in Further Education" by Peter Stewart looked at the literacy ability of 1,500 craft students and found that up to 20 per cent of the day release population had serious literacy problems. Most courses attracted some students who experienced reading and writing difficulties and contained a wide spread of ability.

It likely that as more young people enter colleges on various schemes sponsored by the Manpower Services Commission that lecturers will find themselves becoming more involved in basic skills tuition.

A handbook has been produced by ALBSU which looks at the literacy and numeracy elements of craft courses and suggests ways in which lecturers can help students so as to enable them to complete the college course successfully.

Drawing upon the requirements of particular courses, mostly in construction, hairdressing and catering, lecturers should be able to identify common principles which can be applied to other craft courses.

A first glance at the syllabuses of many craft courses may not suggest a great deal of reading or calculation but students still need to be able to show they have understood the course and an ability to retrieve information from books and journals. The presentation of handouts in a clear and readable form by lecturers can help non-fluent readers follow the course more constructively.

ALBSU takes the view that most students who have such difficulties can be helped to follow the course and to their benefit rather than being taken aside for remedial tuition.

The handbook *Teaching Literacy and Numeracy to Craft Students* is available from ALBSU, Kingsbourne House, 220-231, High Holborn, London WC1V 7DA price £1.20 plus postage.

## Polyversity merger to include plans for expansion

Plans for a huge expansion of undergraduate higher education in London-derry in the next five years, with a proposed £3m building programme, are likely to be put forward as part of the merger between the New University of Ulster and Ulster Polytechnic.

The plans are being developed by the recently-designated senior management of the new institution, whose last legal hurdle was passed last month when NUU agreed to resign its charter.

They include the presence in Londonderry of all seven of the new institutions' facilities - humanities, art and design, science, technology, social and health sciences, education, and business studies - though not necessarily providing every year and specialism of every course, and a consequent need for a large investment in space and equipment.

The plans stem from guarantees given by the new management, the steering group overseeing the merger and the Government, that Magee University College - progressively run down by NUU in recent years - would be the basis of a campus of similar size and status to the existing ones in Belfast and Coleraine.

Mr Nicholas Scott, under-secretary

of state in Northern Ireland and responsible for education, has set up a committee, the Cowan committee, to report on further and higher education in the north west of the province, and has promised to look sympathetically at requests for additional funding.

In its report due next month, to call for the setting up of a liaison committee for the new institution and the North West College of Technology, chaired and including representatives of local commercial and industrial interests, to monitor provision and ensure that there is neither duplication nor squeezing out of the college.

In fact the plans for the Londonderry campus include expansion of the current collaboration between the polytechnic and the college, which already teaches the first year of a polytechnic diploma in technology, so that the college's equipment and staff could also be used in degree courses, at least in the earlier years.

Other specific plans are intended to give the Londonderry campus special expertise which would draw students to it in preference to other places: a peace studies unit is envisaged, and, with Government support, a sizeable information technology development.

## Sole union rights for AUT

First steps towards establishing the Association of University Teachers as the sole recognized union for academic and academic-related staff at Northern Ireland's new "polyversity" were taken this week.

The AUT agreed a deal with the National Association of Teachers in Further and Higher Education establishing the AUT's rights to seek sole recognition from the management of the new institution, being created out of a merger between Ulster Polytechnic and the New University of Ulster.

Transitional arrangements are also covered by the agreement, with NAFHE responsible for the polytechnic membership and the AUT for its members at NUU from January 1 next year until the end of September 1985 when the new institution will be a year old.

After that NAFHE will surrender its interest and its members are expected to join AUT.

Discussions are to take place today between the AUT and NAFHE's great

rival, the Association of Polytechnic Teachers, which has a stronghold at the polytechnic.

The aim is a similar agreement which will permit APT to represent its 250 or so members in Ulster until they too will be expected to become members of the AUT.

But the APT is expected to be both to surrender its claim to recognition, and has recently changed its constitution to admit non-polytechnic members as long as they teach in institutions offering more than 50 per cent advanced further education.

Further talks are to be held with the Association of Scientific, Technical and Managerial Staffs, which has a number of members among academic staff at the polytechnic. The related staff at the polytechnic should be involved in the urgent negotiations it wants to hold with the new institution over assimilation of academic-related staff currently on local government pay scales on to university scales.

by Paul Flather

Sir Douglas Hague took over as chairman of the Economic and Social Research Council on Monday, promising that his business, Whitehall and Government contacts would be an important asset for the council.

This week Sir Douglas has been learning the inner workings of the council. Senior staff have been explaining to him just what their jobs entail, and he has been studying recent ESRC publications.

He has known both the Prime Minister and Sir Keith Joseph, Secretary of State for Education, since 1966. He has given them advice both in and out of government, and since 1979 he has served in Mrs Thatcher's policy unit, resigning when opposition was said to have naturally shared many ideas with Mrs Thatcher and Sir Keith. But he stressed he

had never taken a penny of Conservative Party funds and comes to his present job fully committed to promoting British social science research.

"I want the best possible research over the whole field of social science done all over the UK on a scale which is appropriate to the needs of the country. If there is not enough money to go round, we must get more from other sources," he declared.

Sir Douglas has been made fully aware of the council's recent troubled history, and the slump in its budget which has declined in real terms by around 30 per cent since 1979.

He stressed also that economics would not be any more central to dominate the output, even though his name has been changed from Social Science Research Council, Sir Douglas and Mr Michael Posner, the

## BTEC's higher diplomas 'threatened'

by Patricia Santinelli

Proposals to give less financial support to colleges for non-degree students and the possible introduction of two-year degrees have been attacked by the Business and Technician Education Council in its first week of operation.

The BTEC regards both proposals, one from the National Advisory Body and the other from the Council for National Academic Awards, as a threat to its own courses, particularly in the higher diploma field.

Mr John Sellars, the BTEC's chief executive, has written to the NAB objecting to the secretary's decision to give postgraduate and degree students a 1.05 weighting in comparison to 1.00 for non-degree students, when calculating the indicative financial support for each institution.

"Given that the NAB committee had indicated that it was most anxious

to consider and debate the level of weighting for postgraduate and degree students, it would have been prudent to use the existing 1:1 ratio between such students in these preliminary proposals," Mr Sellars said.

He added that this would have been infinitely better than a figure which had not been justified or accepted by either the board or the committee of the NAB.

"I anticipate that the council will request an assurance from the NAB that in future planning exercises, the committee and board will ensure that decisions on parameters which give significant signals to the colleges about the future shape of the system will only be used and published after they have been debated and accepted by NAB," Mr Sellars said.

In a separate letter to Mr Edwin Kerr, chief officer of the CNA, Mr Sellars has expressed concern about

proposals for two year degrees contained in the paper on *Future Development of CNA Policies in Undergraduate Level* published in May.

He said that the BTEC would object to any attempt to award degrees on only two years of study of the part-time equivalent.

"Already degrees are gained in the UK based on a shorter period of study than in other countries within the European Community. To diverge still further from such norm could damage the international status of CNA degrees with considerable consequential injustice to the students," Mr Sellars said.

Mr Sellars added that the BTEC would be concerned if there were a move to make a significant increase in the proportion of young people pursuing mainly general education for two years after school.

He argued that there was a national requirement for many more school-leavers to pursue study which prepared them for work.

"What they and the country need is not more further general education but for them to proceed to well directed vocational study such as characterises courses leading to BTEC awards. Moreover it would be wasteful within scarce resources to be funding what would be little more than a two year extension," Mr Sellars said.

He added that the council would be concerned if young people were let loose on the labour market with an award which might have limited validity as a qualification in its own right.

The many who would benefit from shorter, less purely academic study should be on Higher National vocational courses developing their readiness for work.

## Napier sparks union concern

Scotland's further education unions fear that Napier College in Edinburgh is trying to circumvent legislation protecting part time staff.

Both the Educational Institute of Scotland and the Scottish Further Education Association have said they are disturbed by a college memo circulated to Napier's heads of department.

It outlines the recent House of Lords ruling that a succession of part time teaching contracts could be considered continuous employment, and states that people employed for less than eight hours a week would not qualify for redundancy or unfair dismissal claims.

"It has therefore been decided that all appointments of temporary part time teaching staff should be restricted to less than eight hours per week in future," the memo continues.

Mr Kell Bloomer, EIS deputy general secretary, said he was appalled by the notion that a person's hours of employment "should be dictated by how to get round the law rather than how to provide a service to students."

But Napier's secretary, Mr R. W. Stevenson, said the memo had been wrongly interpreted. "All we are trying to do is to point out that the law has changed."



Has Fred Gee joined the growing queue of Coronation Street refugees and abandoned the Rovers Return? No need for Annie Walker to worry - actor Fred Gee, who plays her ebullient bar manager in the series, was merely taking a sabbatical, contrary of Salford University Students Union. He is pulling the first pint in a Salford pub opened by students to swell their welfare fund. The Wanless Arms is on the fringe of the campus and a nearby residential area.

## Sir Keith refuses to reprieve De La Salle

Governors of De La Salle College, Manchester are to meet next week to decide whether further legal action can be taken over the Secretary of State for Education's refusal to reprieve teacher training there.

Sir Keith Joseph's decision to close down teacher training at the college from next year was announced this week, more than a month late thereby allowing registration to go ahead for 1983.

The announcement has come as a shock to the college and its board of governors composed of Roman Catholic bishops. They had been persuaded that Sir Keith's promise of review of their case would result in the college's survival. Governors had withdrawn their High Court case against Sir Keith on the basis of this review.

In a letter to the Rt Rev Thomas Holland, Bishop of Salford and chairman of the college's board of governors, Sir Keith says that his decision does not imply any failure by the college to meet particular criteria but is based on a conclusion that its contribution to teacher training is no longer essential.

He adds that his decision took into account the needs of the national

teacher training system in the context of a much reduced need for secondary teachers, the creation of sufficiently large teacher training units to use resources effectively and the greater emphasis given to Post Graduate Certificate of Education and university courses for secondary training.

But he points out that he is prepared to consider transitional arrangements which would allow the college to continue to recruit one-year courses during the run-down period to ease its problems. These could include craft design and technology and some PGCE courses.

However, the Rev Brother Wilfred, principal of the college, said he could not see how this would help De La Salle. He added that Sir Keith's explanation about the number of teacher training places nationally was an odd excuse at this stage, since this would have been known before the review.

Sir Keith also acknowledges that the Roman Catholic community has an important part to play in the training of teachers but states that there can be no commitment to a fixed and unchanging share of the public sector initial teacher training intake.

## Budgets based on old numbers

continued from front page

Other papers presented to Monday's meeting show that a higher weighting for degree courses, demanded by the Council for National Academic Awards and others, would make little difference to the division between colleges and polytechnics. In fact, two polytechnics (Preston and Teesside) would receive small amounts if more money was given for degree students.

The weightings for individual programmes, which have also attracted criticism, especially from engineers, were also defended by the group, which will propose no change to the board.

The switch of a proportion of funds back towards the polytechnics, which is widely desired within the NAB, is likely to be accommodated to some extent if Sir Keith Joseph announces an increase in the 1984/85 pool, as requested by the NAB committee. An announcement that the DES will find about half the £25m requested may come next week.

But there are bound to be further disagreements on the distribution of students when the NAB board meets in Baslehouse. The NAB's own continuing education group is writing to oppose any erosion in the numbers proposed for part-time enrolments, while the CNA is still seeking changes in a number of areas. In town planning, for example, the council has criticized the choice of departmental closures at Coventry and Central London polytechnics, the Chelmer Institute and Gloucester College of Arts and Technology.

extent if Sir Keith Joseph announces an increase in the 1984/85 pool, as requested by the NAB committee. An announcement that the DES will find about half the £25m requested may come next week.

But there are bound to be further disagreements on the distribution of students when the NAB board meets in Baslehouse. The NAB's own continuing education group is writing to oppose any erosion in the numbers proposed for part-time enrolments, while the CNA is still seeking changes in a number of areas. In town planning, for example, the council has criticized the choice of departmental closures at Coventry and Central London polytechnics, the Chelmer Institute and Gloucester College of Arts and Technology.

The switch of a proportion of funds back towards the polytechnics, which is widely desired within the NAB, is likely to be accommodated to some extent if Sir Keith Joseph announces an increase in the 1984/85 pool, as requested by the NAB committee. An announcement that the DES will find about half the £25m requested may come next week.

But there are bound to be further disagreements on the distribution of students when the NAB board meets in Baslehouse. The NAB's own continuing education group is writing to oppose any erosion in the numbers proposed for part-time enrolments, while the CNA is still seeking changes in a number of areas. In town planning, for example, the council has criticized the choice of departmental closures at Coventry and Central London polytechnics, the Chelmer Institute and Gloucester College of Arts and Technology.

## Labour condemns 'hacking'

The Government's policies of "hacking away" at research in universities and preventing 60,000 students from winning places were roundly condemned at a meeting at the Labour Party conference in Brighton this week.

Mr Geoffrey Robinson, MP for Coventry North West, Labour's spokesman on science and technology, said the effects of university cuts in five years would leave the country without the ability to produce new research ideas.

Mr Tam Dalyell MP for West Lothian, former Labour spokesman on science directed his fire at Sir Keith Joseph, the Secretary of State for Education, describing his policies to cut student places and sack 10,000 university staff at a cost of £300m to £400m as "defiant".

Both were speaking at a fringe meeting organized by the Association of Scientific, Technical, and Managerial Staffs, where the union launched a pamphlet detailing the effects of research and development cuts on British engineering.

The pamphlet, based on evidence given by ASTMS to the House of Lords Select Committee on Science and Technology notes the serious effect of university cuts and urges a "constructive debate" that will lead to maximum employment.

Mr Clive Jenkins, ASTMS general secretary, chairing the meeting, stressed the need to put science policy back on the agenda.

The *Leading Edge*, price £1 from ASTMS, 79 Camden Road, London, NW1 9ES.

## Friends in high places will help Sir Douglas

by Paul Flather

Sir Douglas Hague took over as chairman of the Economic and Social Research Council on Monday, promising that his business, Whitehall and Government contacts would be an important asset for the council.

This week Sir Douglas has been learning the inner workings of the council. Senior staff have been explaining to him just what their jobs entail, and he has been studying recent ESRC publications.

He has known both the Prime Minister and Sir Keith Joseph, Secretary of State for Education, since 1966. He has given them advice both in and out of government, and since 1979 he has served in Mrs Thatcher's policy unit, resigning when opposition was said to have naturally shared many ideas with Mrs Thatcher and Sir Keith. But he stressed he

had never taken a penny of Conservative Party funds and comes to his present job fully committed to promoting British social science research.

"I want the best possible research over the whole field of social science done all over the UK on a scale which is appropriate to the needs of the country. If there is not enough money to go round, we must get more from other sources," he declared.

Sir Douglas has been made fully aware of the council's recent troubled history, and the slump in its budget which has declined in real terms by around 30 per cent since 1979.

He stressed also that economics would not be any more central to dominate the output, even though his name has been changed from Social Science Research Council, Sir Douglas and Mr Michael Posner, the

retiring chairman, have together approved the new council logo.

"I know I am being seen as another economist's chairman. But a lot of economists would be better economists if they too more notice of what sociologists or psychologists have to offer. I am for a broad multidisciplinary approach."

Sir Douglas's arrival coincides with the publication of the council's annual register of research supported, listing more than 500 grants, and work done in the council units, the Technical Change Centre, and international activities.

"Among the projects are studies of residential burglary by Dr D. T. Herbert of University College, Swansea, attempting to identify 'vulnerable' areas; a study of how violent play is affected by television, requested for regulatory by a team at Sheffield University; and a study of



Sir Douglas Hague fully committed

exchange rates to medieval Europe by Dr P. Spufford of Cambridge University. Research supported by the ESRC 1983, price £5 plus packaging, from School Government Publishing Company, Derby House, Blenheim Road, Merthyr Tydfil, Rh11 3DN.

## Inspectors to monitor teaching standards

by Patricia Santinelli

Her Majesty's Inspectorate further education branch is to monitor the quality and standard of the Youth Training Scheme from next year.

This will be the first time that the Department of Education and Science has a direct involvement in YTS, leaving up to now taken an observer role and left the running to the Manpower Services Commission and the Department of Employment.

The plan is that from next February an HMI team will link up with the MSC's quality assurance team and examine selected off the job training schemes in colleges.

At the same time discussions are taking place between the MSC, DES, HMI and the Confederation of British Industry to see whether teams of inspectors can be allowed to visit on the job schemes in a small number of firms. This will depend entirely on the willingness of employers.

One of the aims of inspecting both off the job and on the job elements of YTS is to see how a true vocational, educational and training scheme can be achieved and how these two aspects can be fully integrated for the future. It is also expected that the exercise

will lead to general reports on different aspects of YTS as well as case studies of good practice which can be used widely.

MSC proposals to make the six learning opportunities and eight design elements of YTS compulsory for 1984 were being discussed by the Advisory Professional Standards Group today.

The MSC suggestion is that Area Manpower Board discretion to approve schemes that do not meet these particular criteria should be removed and that all schemes starting in 1984 have to contain these elements from the outset.

Other "musts" that are included in the proposals for minimum criteria for the schemes are that all induction programmes should make sure that YTS and their role in it, and that they are provided with a training programme prior to the start of the scheme.

Confirmation that YTS might be opened up to a wider range of young people came this week from Mr David Young, chairman of the MSC.

Speaking at the Institute of Careers Officers' annual conference in Eastbourne, Mr Young said that they were considering extending the scheme to employed 17-year-olds.

## Poly costs gap narrows

The gap between different polytechnics' unit costs is narrowing, according to the annual expenditure figure produced by the Polytechnic Finance Officers' Group for 1981/82.

Although North East London Polytechnic still has the highest cost per student, it is less noticeably expensive than in previous years compared with the second and third most expensive - Kingston and Brighton respectively - while Middlesex has dropped out from its usual place in the top five to below Teesside and North Stafford.

This survey is the first from the finance officers' group to compare the costs of the same courses in different institutions, previously only comparing between so-called "hard" and "soft" subjects plus art and design were used.

*Polytechnic Expenditure - Actual 1981/82*. The Polytechnic Finance Officers' Group, price £10, available from The Bureau, Brighton Polytechnic, Mithras House, Lewes Road, Brighton BN2 4AT.

## Access course students go on waiting and wanting

Admission to most universities and polytechnics is still being denied to students from special access courses, the first Council of Europe workshop on multicultural education held in Keele University was told this week.

Mr Keith Millis, director of the Department of Education and Science, said that only a few universities and polytechnics remained uninterested in students from such backgrounds.

Students who go on to higher education via this route was impressive. Some 80 per cent of all access students made satisfactory progress.

A breakdown of such students admitted to higher education in the last three years showed that out of an estimated 316, 238 passed and some 178 were admitted to Caribbean and African courses. The majority of students were from the Caribbean and African regions.

For example, 125 out of 150 students were admitted to Caribbean courses in 1981/82. British universities

Mr Millis also pointed out that the number of admissions to special access courses for 1982/83 had risen by 38 per cent over last year, from a total of 309 to 427. This was in spite of progress in establishing "new" courses, being established slowly.

In the previous years the number of women continuing to study was three to one, in 1982/83 there were 125 men and 125 women on courses compared to 125 men and 125 women.

A study of the overall pass rate shows that in 1981/82 three out of four students who had been on access courses had passed. This was compared to 125 men and 125 women.

Caribbean students were successful. A further breakdown shows that both the percentage rate success of Caribbean men and women is rising. In 1981/82 this has risen from 63 per cent to 83 per cent in 1981/82, for women from 75 per cent to 79 per cent.

Only 7 per cent of students were unsuccessful but some 17 per cent left their courses. Among the reasons given for this were financial hardship, lack of employment, English as a second language difficulties, lack of confidence and family commitments.

A further breakdown shows that both the percentage rate success of Caribbean men and women is rising. In 1981/82 this has risen from 63 per cent to 83 per cent in 1981/82, for women from 75 per cent to 79 per cent.

by Paul Flather

Sir Douglas Hague took over as chairman of the Economic and Social Research Council on Monday, promising that his business, Whitehall and Government contacts would be an important asset for the council.

## Architecture heads reject student cuts

by Felicity Jones

Heads of architecture schools have challenged the assumption held by the National Advisory Body and the University Grants Committee that student numbers need to be reduced because of large scale underemployment.

They had been invited to a special meeting of the Architects Registration Council (ARCUK) to learn what the transitory architecture group was doing and to formulate a view on the future of architectural education.

The group informed the heads it was aware of the reduction in resources in higher education and of the relative high cost of degree courses in architecture. It had therefore agreed that the continuation of existing levels of entry would need to be justified.

The group has commissioned a survey to gauge the future demand for architects and can estimate the number of qualified architects in 1990, based on existing numbers and students.

The possible outlook for the construction and allied industries, future patterns of employment for graduates, the ratio of architects to other professionals in the building team and the future of technicians in architecture were also objectives of the survey. Results should be known by the end of November.



## SERC to probe grants squeeze

by Jon Turney  
Science Correspondent

The Science and Engineering Research Council is worried about the number of grant applications it has turned down and has set up a study group to examine the effect of grant refusal on research groups.

Under the system of assessment set up by the SERC, proposed projects are graded by review committees and those passed in the "alpha" category are used to be virtually guaranteed funding. But the proportion of alpha proposals receiving funds has been declining for several years.

In 1981/82, the SERC's science board, which channels most money into universities, was only able to back 87 per cent of alpha projects. Professor James Chadwick, chairman of the science board, then spoke of his regret that so many applications "so good as to merit award in all normal circumstances" went unsupported.

Since then the situation has been getting worse rapidly. Unpublished figures for 1982/83 show that only 75 per cent of alpha proposals were funded by the science board. As more grant applications are now being received each year, this means that more and more groups are making fruitless applications.

The council has now commissioned a study of the problem from a small

group under Sir Jack Lewis of Cambridge University. The group is visiting departments in areas of special concern to the SERC, including physics, chemistry, mathematics and materials science, to find out the consequences of the cash shortage.

The departments have been chosen from statistics already available at the SERC headquarters in Swindon which show which have suffered most.

Both the council and the science board are anxious to maintain university support, which is being squeezed by rising costs of central facilities like the synchrotron radiation source at Daresbury. The problem also affects applicants to the engineering board, although not to the same extent.

Ironically, the effects of grant refusal include lack of access to central facilities, as well as gaps in the continuity of major research programmes in university departments and loss of postdoctoral students who cannot afford to wait to do their next piece of work.

The study group is due to report to council by the end of the year, so its conclusions can be considered in time for next year's budget planning. The SERC may use the results to back a case to the Advisory Board for the Research Councils for more money for university support.



Some of the thousands (over 7,000 in a full year) of the British Council new overseas students reporting to the council's reception point at Victoria Station last week. Six hundred arrived during a four-day peak and flight delays of up to 20 hours meant that council staff were on duty round the clock at Victoria and headquarters.

## Craft of teaching literacy

Craft lecturers in further education colleges who find that their students have difficulties with literacy and numeracy are being asked by the Adult Literacy and Basic Skills Unit to help them with reading and writing on the spot rather than refer them to a specialist.

A project carried out at Bolton Technical College which resulted in the report "Literacy Skills: Standards and Demands in Further Education" by Peter Stewart looked at the literacy ability of 1,500 craft students and found that up to 20 per cent of the day release population had serious literacy problems. Most courses attracted some students who experienced reading and writing difficulties and contained a wide spread of ability.

It is likely that as more young people enter colleges on various schemes sponsored by the Manpower Services Commission that lecturers will find themselves becoming more involved in basic skills tuition.

A handbook has been produced by ALBSU which looks at the literacy and numeracy elements of craft courses and suggests ways in which lecturers can help students go as far as to enable them to complete the college course successfully.

"Drawing upon the requirements of particular courses, mostly in construction, hairdressing and catering, lecturers should be able to identify common principles which can be applied to other craft courses."

"A first glance at the syllabuses of many craft courses may not suggest a great deal of reading or calculation but students still need to be able to show they have understood the course and an ability to retrieve information from books and journals. The presentation of handouts in a clear and readable form by lecturers can help non-fluent readers follow the course more constructively."

ALBSU takes the view that most students who have such difficulties can be helped at part of the course and to their benefit rather than being taken away for remedial tuition.

The handbook *Teaching Literacy and Numeracy to Craft Students* is available from ALBSU, Kingsbourne House, 229-231 High Holborn, London WC1V 7DA price £1.20 plus postage.

## Polyversity merger to include plans for expansion

Plans for a huge expansion of undergraduate higher education in London-derry in the next five years, with a proposed £3m building programme, are likely to be put forward as part of the merger between the New University of Ulster and Ulster Polytechnic.

The plans are being developed by the recently-designated senior management of the new institution, whose last legal hurdle was passed last month when NUU agreed to resign its charter.

They include the presence in Londonderry of all seven of the new institution's faculties - humanities, art and design, science, technology, social and health sciences, education, and business studies - though not necessarily providing every year and specialism of every course, and a consequent need for a large investment in space and equipment.

The plans stem from guarantees given by the new management, the Commission that lecturers will find themselves becoming more involved in basic skills tuition.

A handbook has been produced by ALBSU which looks at the literacy and numeracy elements of craft courses and suggests ways in which lecturers can help students go as far as to enable them to complete the college course successfully.

"Drawing upon the requirements of particular courses, mostly in construction, hairdressing and catering, lecturers should be able to identify common principles which can be applied to other craft courses."

"A first glance at the syllabuses of many craft courses may not suggest a great deal of reading or calculation but students still need to be able to show they have understood the course and an ability to retrieve information from books and journals. The presentation of handouts in a clear and readable form by lecturers can help non-fluent readers follow the course more constructively."

ALBSU takes the view that most students who have such difficulties can be helped at part of the course and to their benefit rather than being taken away for remedial tuition.

The handbook *Teaching Literacy and Numeracy to Craft Students* is available from ALBSU, Kingsbourne House, 229-231 High Holborn, London WC1V 7DA price £1.20 plus postage.

of state in Northern Ireland and responsible for education, has set up a committee, the Cowan committee, to report on further and higher education in the north west of the province, and has promised to look sympathetically at requests for additional funding.

The Cowan committee is expected, in its report due next month, to call for the setting up of a liaison committee for the new institution and the North West College of Technology, chaired and including representatives of local commercial and industrial interests, to monitor provision and ensure that there is neither duplication nor squeezing out of the college.

In fact the plans for the Londonderry campus include expansion of the current collaboration between the polytechnic and the college, which already teaches the first year of a polytechnic diploma in technology, so that the college's equipment and staff could also be used in degree courses at least in the earlier years.

Other specific plans are intended to give the Londonderry campus special expertise which would draw students to it in preference to other places; a peace studies unit is envisaged; and, with Government support, a sizeable information technology development.

## Sole union rights for AUT

First steps towards establishing the Association of University Teachers as the sole recognized union for academic and academic-related staff at Northern Ireland's new "polyversity" were taken this week.

The AUT signed a deal with the National Association of Teachers in Further and Higher Education establishing the AUT's rights to seek sole recognition from the management of the new institution, being created out of a merger between Ulster Polytechnic and the New University of Ulster.

Transitional arrangements are also covered by the agreement, with Natfhe responsible for its polytechnic membership and the AUT for its members at NUU from January 1 next year until the end of September 1985 when the new institution will be a year old.

After that Natfhe will surrender its interest and its members are expected to join AUT.

Discussions are to take place today between the AUT and Natfhe's great rival, the Association of Polytechnic Teachers, which has a stronghold at the polytechnic.

The aim is a similar agreement which will permit APT to represent its 250 or so members in Ulster until the new institution is a year old when they too will be expected to become members of the AUT.

But the APT is expected to be loath to surrender its claim to recognition, and has recently changed its constitution to admit non-polytechnic members as long as they teach in institutions offering more than 50 per cent advanced further education.

Further talks are to be held with the Association of Scientific, Technical and Managerial Staffs, which has a number of members among academic-related staff at the polytechnic. The AUT is anxious that the union should be involved in the urgent negotiations over assimilation of academic-related staff currently on leave of absence on to university scales.

## Awards directory

More than 650 awards open to lecturers in Commonwealth universities are listed in a new directory published this week.

Listed are fellowships, visiting professorships and grants available to university staff wishing to travel to another Commonwealth country to research, research or make study visits.

## BTEC's higher diplomas 'threatened'

by Patricia Santinelli

Proposals to give less financial support to colleges for non-degree students and the possible introduction of two-year degrees have been attacked by the Business and Technician Education Council in its first week of operation.

The BTEC regards both proposals, one from the National Advisory Body and the other from the Council for National Academic Awards, as a threat to its own courses, particularly in the higher diploma field.

Mr John Sellars, the BTEC's chief executive, has written to the NAB objecting to the secretary's decision to give postgraduate and degree students a 1.05 weighting in comparison to 1.00 for non-degree students, when calculating the indicative financial support for each institution.

"Given that the NAB committee had indicated that it was most anxious

to consider and debate the level of weighting for postgraduate and degree students, it would have been prudent to use the existing 1:1 ratio between such students in these preliminary proposals," Mr Sellars said.

He added that this would have been infinitely better than a figure which had not been justified or accepted by either the board or the committee of the NAB.

"I anticipate that the council will request an assurance from the NAB that in future planning exercises, the committee and board will ensure that decisions on parameters which give significant signals to the colleges about the future shape of the system will only be used and published after they have been debated and accepted by NAB," Mr Sellars said.

In a separate letter to Mr Edwin Kerr, chief officer of the CNA, Mr Sellars has expressed concern about

proposals for two year degrees contained in the paper on *Future Development of CNAA Policies Undergraduate Level* published in May.

He said that the BTEC would object to any attempt to award degrees on only two years of study if the part-time equivalent.

"Already degrees are gained in the UK based on a shorter period of study than in other countries within the European Community. To diverge still further from such norm could damage the international status of CNAA degrees with considerable consequential injustice to the students," Mr Sellars said.

Mr Sellars added that the BTEC would be concerned if there were a move to make a significant increase in the proportion of young people pursuing mainly general education for two years after school.

He argued that there was a national requirement for many more school-leavers to pursue study which prepared them for work.

"What they and the country need is not more further general education but for them to proceed to well directed vocational study such as characterises courses leading to BTEC awards. Moreover it would be wasteful within scarce resources to be funding what would be little more than a two year extension," Mr Sellars said.

He added that the council would be concerned if young people were let loose on the labour market with an upward which might have limited validity as a qualification in its own right. The many who would benefit from shorter, less purely academic study should be on Higher National vocational courses developing their readiness for work.

## Napier sparks union concern

Scotland's further education unions fear that Napier College in Edinburgh is trying to circumvent legislation protecting part time staff.

Both the Educational Institute of Scotland and the Scottish Further Education Association have said they are disturbed by a college memo circulated to Napier's heads of department.

It outlines the recent House of Lords ruling that a succession of part time teaching contracts could be considered continuous employment, and states that people employed for less than eight hours a week would not qualify for redundancy or unfair dismissal claims.

"It has therefore been decided that all appointments of temporary part time teaching staff should be restricted to less than eight hours per week in future," the memo continues.

Mr Keir Bloomer, EIS deputy general secretary, said he was appalled by the notion that a person's hours of employment "should be dictated by how to get round the law rather than how to provide a service to students."

But Napier's secretary, Mr R. W. Stevenson, said the memo had been wrongly interpreted. "All we are trying to do is to point out that the law has changed."



Haas Fred Gee joined the growing queue of Coronation Street refugees and abandoned the Rovers Return? No need for Annie Walker to worry.

actor Fred Frest, who plays her ebullient bar manager in the series, was merely taking a sabbatical, courtesy of Salford University Students Union. He is pulling the first pint in a Salford pub opened by students to swell their welfare fund. The Welfare Arms is on the fringe of the campus and a nearby residential area.

## Budgets based on old numbers

continued from front page

Other papers presented to Monday's meeting show that a higher weighting for degree courses demanded by the Council for National Academic Awards and others, would make little difference to the division between colleges and polytechnics. In fact, two polytechnics (Preston and Teesside) would lose small amounts if more money was given for degree students.

The weightings for individual programmes which have also attracted criticism, especially from engineers, were also defended by the group, which will propose no change to the board.

The switch of a proportion of funds back towards the polytechnics, which is widely desired within the NAB, is likely to be accommodated to some extent if Sir Keith Joseph announces an increase in the 1984/85 pool, as requested by the NAB committee.

An announcement that the DES will find about half the £25m requested may come next week.

But there are bound to be further disagreements on the distribution of students when the NAB board meets in Eastbourne. The NAB's own continuing education group is writing to oppose any erosion in the numbers proposed for part-time enrolments, while the CNA is all seeking changes in a number of areas. In town planning, for example, the council has criticized the choice of departmental closures at Coventry and Central London polytechnics, the Chelmer Institute and Gloucester College of Art and Technology.

## Friends in high places will help Sir Douglas

by Paul Flather

Sir Douglas Hague took over as chairman of the Economic and Social Research Council on Monday, promising that his business, Whitehall and Government contacts would be an important asset for the council.

This week Sir Douglas has been learning the inner workings of the council. Senior staff have been explaining to him just what their jobs entail, and he has been studying recent ESRC publications.

He has known both the Prime Minister and Sir Keith Joseph, Secretary of State for Education, since 1966. He has given them advice both in and out of government, and since 1979 he has served in Mrs Thatcher's policy unit, resigning when appointed to the ESRC.

In an interview he said he naturally shared many views with Mrs Thatcher and Sir Keith. But he stressed he

## Labour condemns 'hacking'

The Government's policies of "hacking away" at research in universities and preventing 30,000 students from winning places were roundly condemned at a meeting at the Labour Party conference in Brighton this week.

Mr Geoffrey Robinson, MP for Coventry North West, Labour's spokesman on science and technology, said the effects of university cuts in five years would leave the country without the ability to produce new research ideas.

Mr Tam Dalyell MP for West Lothian, former Labour spokesman on science directed his fire at Sir Keith Joseph, the Secretary of State for Education, describing his policies to cut student places and sack 10,000 university staff at a cost of £300m to £400m as "daff".

Both were speaking at a fringe meeting organized by the Association of Scientific, Technical, and Managerial Staffs, where the union launched a pamphlet detailing the effects of research and development cuts on British engineering.

The pamphlet, based on evidence given by ASTMS to the House of Lords Select Committee on Science and Technology notes "the serious effect of university cuts and urges a 'constructive debate' that will lead to maximum employment."

Mr Clive Jenkins, ASTMS general secretary, chairing the meeting, stressed the need to put science policy back on the agenda.

The *Leading Edge*, price £1 from ASTMS, 79 Camden Road, London, NW1 9ES.

## Friends in high places will help Sir Douglas

had never taken a penny of Conservative Party funds and comes to his present job fully committed to promoting British social science research.

"I want the best possible research over the whole field of social science done all over the UK on a scale which is appropriate to the needs of the country. If there is not enough money to go round, we must get more from other sources," he declared.

Sir Douglas has been made fully aware of the council's recent troubled history, and the slump in its budget which has declined in real terms by around 30 per cent since 1979.

He stressed also that economics would not in any way come to dominate the council, even though its name has been changed from Social Sciences Research Council. Sir Douglas and Sir Michael Pomeroy, the



Sir Douglas Hague: fully committed

exchange rates in medieval Europe by Dr E. Spafford of Cambridge University. Research supported by the ESRC 1983, price £6 plus packaging, from School Government Publishing Company, Darby House, Bletchingley Road, Mordenham Redhill RH1 3DN.

## Architecture heads reject student cuts

by Felicity Jones

Heads of architecture schools have challenged the assumption held by the National Advisory Body and the University Grants Committee that student numbers need to be reduced because of large scale underemployment.

They had been invited to a special meeting of the Architects Registration Council (ARCUK) to learn what the transitory architecture group was doing and to formulate a view on the future of architectural education.

The group informed the heads it was aware of the reduction in resources in higher education and of the relative high cost of degree courses in architecture. It had therefore agreed that the continuation of existing levels of entry would need to be justified.

The group has commissioned a survey in gauge the future demand for architects so it can estimate the number of qualified architects in 1990, based on existing numbers and students.

The possible outlook for the construction and allied industries, future patterns of employment for graduates, the ratio of architects to other professionals in the building team and the future of technicians in architecture were also objectives of the survey. Results should be known by the end of November.

During its inquiries the group also decided to consider degree course lengths and the five-year mandatory award.

The group will also examine the provision of part-time courses, the role of continuing professional development and technician level education.

Some of the heads of architecture attacked it for being too obsessed with workforce supply and demand and too little concerned with the quality of architectural education.

Professor Geoffrey Broadbent of Portsmouth Polytechnic and Professor Ken Martin of Liverpool Polytechnic both quoted statistics to show that architecture had one of the best employment records, with estimates of unemployment running at below 5 per cent.

Sir Keith also acknowledges that the Roman Catholic community has an important part to play in the training of teachers but states that there can be no commitment to a fixed and unchanging share of the public sector initial teacher training intake.



'I WONDER IF WE COULD GET AWAY WITH COMBINING PARAPSYCHOLOGY AND ECONOMIC FORECASTING?'

## Courses

Guided Home Study for DEGREES, GCE and BEC

LONDON UNIVERSITY: LL.B., B.Sc., B.A., English, French, History, B.O. Diplomas in Education.

CAMBRIDGE UNIVERSITY: Diplomas in Religious Studies.

OCE: Over 60 'O' and 'A' level subjects. BEC: New specially approved courses for the National Certificate.

For free details and advice, telephone or write to me stating which exam you wish to take. The Hon. Frank Pifer, CBE, MC, MA, Wolsey Hall, Dept. BA2, Wolsey Hall, Oxford OX2 6PR Tel: 0185 34231 (24 hours)

Accredited CACC

## Poly costs gap narrows

The gap between different polytechnics unit costs is narrowing, according to the annual expenditure figure produced by the Polytechnic Finance Officers' Group for 1981/82.

Although North East London Polytechnic still has the highest cost per student, it is less noticeably expensive than second and third most expensive - Kingston and Brighton respectively - while Middlesex has dropped out from its usual place in the top five to below Teesside and North Stafford.

## Access course students go on waiting and wanting

Admission to most universities and polytechnics is still being denied to students from special access courses, the first Council of Europe workshop of multicultural education held at Keele University was told this week.

Mr Ken Millis, director of the Department of Education and Science project evaluating such courses, said that not only had universities and polytechnics remained disinterested in such students but that the lack of interest was increasing as the supply of candidates with orthodox 'A' levels expanded.

Yet the success rates of the few students who do go on to higher education via this route was impressive. Some 80 per cent of all access students made satisfactory progress.

A breakdown of such students admitted to higher education institutions in 1982/83 showed that out of an initial intake of 316, 238 passed and some 197 were admitted. Caribbean students who formed the majority of the intake achieved the highest rate of admission compared to British white students. For example, 129 out of 141 who were admitted compared to 141 out of 173 British white who

polytechnic expenditure - actual 1981/82. The Polytechnic Finance Officers' Group, price £10, available from The Bursar, Brighton Polytechnic, Mithras House, Lewes Road, Brighton BN2 4AT.

students who go on to higher education via this route was impressive. Some 80 per cent of all access students made satisfactory progress.

A breakdown of such students admitted to higher education institutions in 1982/83 showed that out of an initial intake of 316, 238 passed and some 197 were admitted. Caribbean students who formed the majority of the intake achieved the highest rate of admission compared to British white students. For example, 129 out of 141 who were admitted compared to 141 out of 173 British white who

polytechnic expenditure - actual 1981/82. The Polytechnic Finance Officers' Group, price £10, available from The Bursar, Brighton Polytechnic, Mithras House, Lewes Road, Brighton BN2 4AT.

students who go on to higher education via this route was impressive. Some 80 per cent of all access students made satisfactory progress.

A breakdown of such students admitted to higher education institutions in 1982/83 showed that out of an initial intake of 316, 238 passed and some 197 were admitted. Caribbean students who formed the majority of the intake achieved the highest rate of admission compared to British white students. For example, 129 out of 141 who were admitted compared to 141 out of 173 British white who

polytechnic expenditure - actual 1981/82. The Polytechnic Finance Officers' Group, price £10, available from The Bursar, Brighton Polytechnic, Mithras House, Lewes Road, Brighton BN2 4AT.

students who go on to higher education via this route was impressive. Some 80 per cent of all access students made satisfactory progress.



## Scots council tries to guide successor

by Olga Wojtas  
Scottish Correspondent

The Scottish Council for Tertiary Education, apparently shutting the stable door after the horse has bolted, is to produce guidelines for the body which will replace it in January.

The council has already spent many months producing a lengthy report on the future structure and management of Scottish tertiary education, but has been angered that its proposal for a "MeNAB" was rejected by the Government.

The council recommended that a committee on the lines of the National Advisory Body should be set up in Scotland.

But the Scottish Office decided that the new body, the Scottish Tertiary Education Advisory Council (STEAC), should have no control over funding which will remain the preserve of the Scottish Education Department.

There was unanimous opposition to this decision at the latest tertiary council meeting, virtually the only time when there has been unanimity since the council is divided between those who think it should be run by the

regional authorities.

It was agreed that STEAC, which is intended to liaise with NAB and the University Grants Committee, would face problems because of its purely advisory role.

Council members decided to make their displeasure clear to the Secretary of State for Scotland, and to ensure that their opposition was not simply noted by the SED, by hastily producing a set of guidelines for STEAC at the council's final meeting in December. The Scottish Secretary Mr George Younger is expected to attend.

It is not yet clear what these guidelines will be, but since Mr Younger has already firmly squashed all proposals of an independent body with teeth, he is unlikely to recant a fortnight before STEAC is set up.

However, some council members feel that a review of the Scottish tertiary sector is still needed, taking account of developments in vocational education and training over the past two years, and also including the Scottish universities, who were not part of the tertiary council's remit, and they may be proposed as STEAC's first task.

## News in Brief

### New role is announced

The new role of the British Technology Group was given last week by Mr Cecil Parkinson, Secretary of State for Trade and Industry, in a long-awaited formal announcement.

He said the BTG would concentrate on translation of research ideas into commercial products, and especially on technology transfer from public sector laboratories.

The announcement signalled the end of the National Enterprise Board's investment powers, except for technology transfer initiatives, and confirmed that BTG will lose first refusal rights over publicly funded research ideas.

However, new guidelines on this topic have yet to be drawn up, and new research grants will be made under the existing conditions for the time being.

### AUT decision

The Association of University Teachers is not to leave the Society for Research into Higher Education despite its severe reservations over some aspects of this year's Leverhulme report.

The union's education and development committee decided against taking a decision to disaffiliate when it considered a report on the implications at its last meeting. A central reason was the fear that the association could be cut off from much valuable information needed to determine its own policies on educational issues.

**Dancers' aim**  
Dance teachers from universities, public sector higher education and private colleges have set up a national organization with the main aim of supporting and defending courses in the subject. A delegation has already been to see ministers at the Department of Education and Science.

An interim executive has been elected and a constitution will be drafted at the first annual general meeting of the Standing Conference on Dance in Higher Education next May. The new body can be contacted at the National Resource Centre for Dance, at Surrey University.

### ABRC post

Sir John Mason, vice president and treasurer of the Royal Society, has been appointed to the Advisory Board for the Research Councils. Sir John, who has just retired as director-general of the Meteorological Office, fills a vacancy left by the appointment of Sir Peter Swinerton-Dyer as chairman of the University Grants Committee, making Sir Peter an *ex officio* member of an independent member of ABRC.

Sir John's appointment comes at the end of a round of new members intended to broaden the independent membership of the board, which now has 25 members in total.

## Cultivating a new audience

The Open University is to venture into farming with a 70-hour course on the health and productivity of dairy cattle.

The course, which starts next year, is aimed at farmers and is a pilot for continuing education courses in agriculture. Another course on pest control is also in the pipeline.

Dr Richard Holmes, the course team chairman, said the dairy cattle course was concerned with preventive husbandry to enable farmers to make more informed judgments. It aims to improve the health and productivity of the cattle, to make more effective use of the veterinary services and to increase understanding of disease prevention.

The course is being produced largely with financial help from the Agricultural Training Board and the assistance of the Royal Veterinary College. It is designed for independent study at home, involving four half-hour BBC television programmes about 70-100 hours study with audio tapes and contact with a local tutor.

One of the problems which faced the course team was the mix of abilities and experience of the people who would be following the course.

A survey was carried out in the initial stages, which produced a reasonable response to the idea. Most interest came from those who worked with the larger cattle herds of 100-150 cattle. Dairy workers in the 25-40 age range were most keen, while farmers of all ages expressed interest. The Agricultural Training Board has organized the tutors, who are all trained vets, written the course materials and provided two experienced training advisers free of charge.

## Doubts cast on £300m computer programme

Professor Edward Feigenbaum of Stanford University last week cast doubt on the prospect for Britain's ambitious new programme to advance computer research. He suggested that the £300m project, generally known as the Alvey programme, was spread too widely to hope to compete with the Japanese "Fifth Generation" computer project which is being funded by the UK government to back the work.

Professor Feigenbaum's criticism carries some weight as he is a leading figure in artificial intelligence research in the US and a frequent visitor to Japan. He is also a vocal advocate of advanced computer research.

Speaking at the SEL-Incent fifth generation conference in London, he listed a number of obstacles facing the Alvey programme. First, it seemed something for everyone instead of

## Redress teaching balance, says v-c

by Ngabo Crequer

Some teaching at Cambridge University is too specialized and repeats work covered in the schools, Professor F. H. Hinsley, the retiring vice-chancellor said last week.

At the installation ceremony for Sir John Butterfield, his successor, Professor Hinsley said that the general board would soon report on its investigation into the relationship between university and college teaching. He thought it would conclude there was a need for a number of minor improvements, but this was not enough.

"I think it will also find that there is a more general problem calling for further examination," he said. In not a little of our teaching programme a lack of balance has arisen over the years from excessive specialization in some parts of our courses and from undue

regurgitation in other parts of ground which undergraduates have covered at school.

"This problem is not unconnected with those with which, for some time now, the colleges have been wrestling in their on-going review of admissions policies. Like them, it will not be easy to resolve - the more so, because, like admissions to universities, the course and curricula provided by universities are topics which generate facile solutions as well as weighty proposals whenever, as is now to be the case, they properly engage the anxiety of society at large," he said.

He said the same was true of another issue which Cambridge would soon have to discuss - academic tenure. He also revealed that the university was proposing to reduce the retiring age of university officers from 70 to 65.

Professor Hinsley also urged the "new blood" schemes for attracting young lecturers should only be consulted with the universities.

Although the research council knew where research needed strengthening, they did not have the same familiarity with the needs of undergraduate teaching, he argued.

"Moreover universities will wish to point out that even within the sciences, which are properly receiving priority, a prolongation of the 'new blood' scheme would reduce their ability to teach what they are best able to teach. The limit of the freedom of their students to learn what most attracts and stimulates them. These are the essence of life and work in a university and they must be preserved."

## Lecturers' union loses senior staff

by David Jobbins

Massive changes at the London headquarters of the college lecturers' union are expected after a senior official leaves to take up a new job outside trade unionism.

Mr Keith Scribbins, assistant secretary for salaries and conditions with the National Association of Teachers in Further and Higher Education, is to be a staff tutor at Coombe Lodge further education staff college from January.

His departure marks a further change among officials at the union's London headquarters which began with the departure of Mr Tom Jones, assistant secretary for membership and casework, at the end of the annual conference in May.

Mr Mick Farley, assistant secretary for further education, is being seconded to the Manpower Services Commission to monitor the quality of the Youth Training Scheme in the south-east. Although his secondment from the NTFE is for two years, that is speculation that his absence may be longer.

Mr Scribbins first worked for the NTFE's predecessor, the Association of Teachers in Technical Institutions. He became an assistant secretary after the 1976 merger with the Association of Teachers in Colleges and Departments of Education.

He was an unsuccessful candidate for the post of general secretary in 1979 and more recently was disappointed when he failed to make the shortlist for the post of general secretary of the Association of University Teachers.

"I feel the heyday of the mid 1970s with the merger. Now it faces almost insurmountable problems, with attacks on both advanced and non-advanced further education. Personally I feel the contribution I have made complete in the present circumstances," he said.

He feels it is now up to the membership of the union to take further advances in employment law and women's rights which have been its particular interest.

Coombe Lodge will give Mr Scribbins the chance to develop his thinking on the law and on statutory regulations surrounding further and higher education.



Familiar pattern: an exhibition celebrating 100 years of knivewear courses in Leicester was presented to a meeting of the International Knitting Federation this week by students at Leicester Polytechnic. The students' designs will be on show during a conference on "Knitting - from cottage to computer" which runs until October 15.

## ILEA fights racism in polys

Governing bodies of all inner London polytechnics and colleges should produce statements of anti-racist policy and report "negative attitudes" to multi-ethnic education to the Inner London Education Authority's Inspectorate.

The document is an addition to the series *Race, sex and class* recently produced by the ILEA for its schools staff and governors and deals with multi-racism in further and higher education.

A key issue is the participation of the black communities, it says. When governing bodies are reconstituted in future, the authority will propose the inclusion of black representatives.

Records of recruitment of staff and

students who are members of ethnic minorities should be kept in order to monitor improvements, it says. Some positive discrimination is permissible under the Race Relations Act, but a positive attitude from teachers, professional and examining bodies and employers was needed to encourage black students. The authority wanted to create access courses and give discretionary grants to under-qualified applicants.

The ILEA Inspectorate is to produce a paper on polytechnic and college management to encourage the development of effective multi-ethnic education policies that provide equal opportunity of access and respect for all students and staff.

## Poly jobless figures rise

The number of students leaving polytechnics only for unemployment increased in 1982, although the rate of increase had slowed down from previous years. Over 15.7 per cent of polytechnic graduates were left unemployed six months after they left in 1982, although that figure was sharply into the more marketable sandwich course students 11.9 per cent unemployed and ordinary graduates 17.7 per cent of whom were out of work.

"The overall figure compares with 14.7 per cent of polytechnic graduates who were unemployed at the same time the previous year."

First *Destinations of Polytechnic Students Qualifying in 1982* - 24.72 (from the Committee of Directors of Polytechnics, 309 Regent Street, London W1A 1AB).

## Academic standards 'being put at risk'

by Patricia Santinelli

Academic standards in higher education were being put at risk by the gradual proliferation of subjects and changing teaching methods, Mr Peter Brooke, under-secretary of state for education, told a conference of college validators in Oxford last week.

He told the Council of Validating Universities, which represents 27 institutions which validate colleges of higher education, that acknowledged standards were needed in new subjects.

"One problem is that things are moving - new, more technologically orientated subjects, new teaching methods - so how do you know whether standards are being maintained or not, since you cannot compare like with like" he asked.

He added that this meant looking at teaching quality and ensuring that course approval took into account the need to stretch and develop students' abilities to the full.

"Validation has a central role to play as a quality control mechanism. It is not enough for standards to be high. We must have a nationally respected, objective and visible means of ensuring that they remain high," Mr Brooke said.

Mr Brooke discussed the strengths and weaknesses of the three main methods of validating courses in universities and the public sector and pointed to the continuing need for reassessment, maintenance and improvement of standards so as to win public confidence.

"The common flaw in current

methods of validation is perhaps that the units involved are too dispersed and disaggregated for the results to be reliable," he said.

He added that the current system encouraged originality and diversity and institutions took responsibility for what they did. But it introduced a proliferation of courses and diversity of methods which might not be helpful.

For example, it meant that the results of students from different institutions could not be meaningfully compared. It also meant that student samples were not large enough to permit the effective use of well-known techniques of quality control.

"At the very least the validating system must come to an understanding of the degree of error it has got and develop methods for dealing with it, such as perhaps greater use of common

elements in a range of courses. This is one way of improving the efficiency and reliability of the higher education sector," he said.

He added that while the higher education sector was expanding, emphasis was on provision and approval of new courses. Now the focus must be on adapting existing activities to meet new demands at a time when available resources were no longer expanding.

"NAB (National Advisory Body) will play its part in ensuring that provision is streamlined and relevant. But it is up to the validating bodies to ensure that remaining provision is of high standard, courses are well organized, assessment is reliable, results are comparable and students have the information they need to make informed judgments," Mr Brooke said.

## Kingston bid to tighten grip on poly

The borough of Kingston is considering proposals to tighten its already firm hold on the academic and financial affairs of Kingston Polytechnic.

The proposals come from a working group of the borough education committee, which was set up in 1981 to look at the long-term future of the polytechnic. They include the establishment of a local authority management system for the polytechnic, revised articles of government and a smaller governing body, and closer guidance on the polytechnic financial and academic developments.

In a report to Kingston education committee, the working party recommends that local authority control over spending in the polytechnic should move from considering polytechnic estimates to a level of detailed monitoring which ensures that advanced further education allocation does not exceed the allocation/estimate and thus create a burden to be met from rate income.

The working party itself - which largely comprises senior members of the Kingston education committee - should become a permanent monitoring body, taking on work both from the education committee and the polytechnic's board of governors.

A group of officers to meet with polytechnic officers and coordinate information should be established, together with a high level appointment of a borough further and higher education officer who would deal directly with the polytechnic.

Regular meetings of these senior officers, the group's report says, would make budget more systematized, monitor income and expenditure, identify financial policies and academic developments.

The polytechnic should also have an academic development plan. It "must know where it is going, so that change can be relatively easily accommodated" the report says.

Despite the current moves at Kingston towards technology, and the fact that 80 per cent of the courses are already directly commercially or industrially relevant, the report says, this trend should be increased.

Increased coordination with Kingston College of Further Education, and use of the polytechnic's resources outside normal hours and terms should also be pursued, and triennial reports made to the education committee by the director.

## Glasgow to press for sports cash

Glasgow University is pressing the University Grants Committee for funds to improve its outdated sports facilities. The university has already highlighted the present inadequacies and severe overcrowding in its restructuring report submitted to the UGC.

Glasgow students are expected to lobby UGC members during their visitation next month.

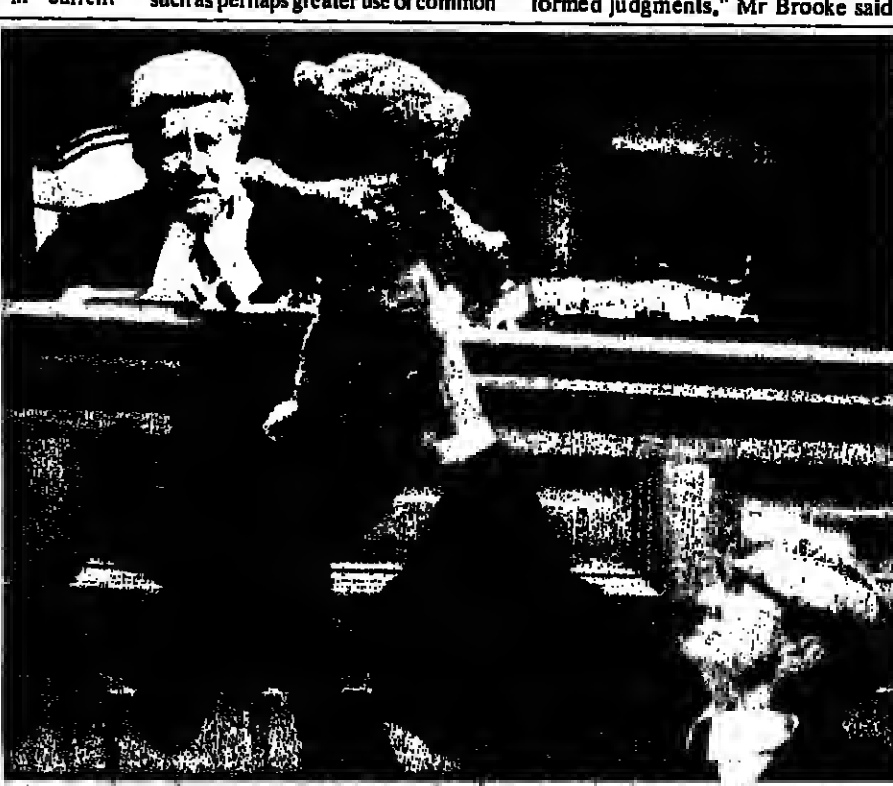
Dr Peter Radford, director of physical education, said the indoor facilities designed in the late 1950s were a generation out of step. The university also needed all weather outdoor areas instead of the present grass pitches. "In the west of Scotland it is a disgrace, grass more than two weeks old, and you can't play on it," he said.

## First sight

"An Eye for an Eye", one of a series of programmes for the Open University's second level technology course on engineering materials has won the gold plaque of the

Chicago International Film Festival. The BBC OU programme is a drama about a firm taken to court

(right) over a material used in the manufacture of teddy bears' eyes. A programme for the third level technology course "Last of the liberties" won the silver plaque.



## Prisoners keep on learning

Prison education staff interviewed 7,000 inmates in the last academic year who wanted to continue with the education and training they had received inside.

Other figures which confirmed the growth in prison education were offered by Lord Elton, under-secretary of state at the Home Office, at the annual conference of prison education officers at Exeter University last week.

He said that out of 320,000 day and evening classes planned in the last academic year 94 per cent actually took place compared to the 206,000 which ran in 1980.

At the minister responsible for the prison service he was keen to emphasize that the education services had "acquired an assured place in the regimes of prison establishments". He said that it introduced prisoners and

trainees to knowledge, skills and critical thinking and helped people prepare for release when they could reestablish themselves in the community.

One reason why prison education had been examined exclusively by a House of Commons select committee was because of the scale and variety of the service in 120 prisons, he said.

Lord Elton urged education officers to consider carefully the select committee's recommendations on the need to link prisoners and trainees on release with follow-up education and training facilities in the community.

One seventh of the average prison population sat public examinations with a 75 per cent pass rate. All young offenders had engaged in some kind of educational activity while 42 per cent of the adult population had done so on a voluntary basis.

## BMA steps up grants call

The British Medical Association intends to step up pressure on the Government to increase clinical medical students' grants to the same level as other undergraduates for their full academic year.

Clinical medical students work 46 weeks a year, but receive a grant calculated at a reduced rate for the extra 16 weeks they work compared with other students. The BMA is now sending a detailed spending questionnaire to student association members at three medical schools - Glasgow, Birmingham and Charing Cross.

Clinical medical students currently receive £30.45 per week during their additional 16 weeks (£40.85 in London), compared with £53.33 per week for the basic 30 week undergraduate stint.

## The philosophy of science is put to the acid test

Who knows how science works, how it progresses, how to choose research goals? For many years the simple answer was the obvious one - scientists. However, there is now a sizable academic community which addresses questions like these from different standpoints. Their answers - as sociologists, political theorists, philosophers or economists - are often different from those given by natural scientists.

This matters because science is as central to the map of academic knowledge as it is to industrial life. It provides a standard to aspire to, authority to be invoked as final arbiter in disputes and fuels technological advance. But does the difference in answers matter to scientists? Do the bands of analysts of science and working scientists researchers have much to say to each other? Two conferences held on successive weekends last month suggest the answer is "not yet".

The University also needed all weather outdoor areas instead of the present grass pitches. "In the west of Scotland it is a disgrace, grass more than two weeks old, and you can't play on it," he said.

all spoke entertainingly enough, they had little to offer which came near the academic concerns of their audience, who studied these matters as outsiders.

At the Cambridge astronomer, Professor Martin Rees put it, he felt "rather like the denizen of some zoo asked to explain to an audience of naturalists about my strange behaviour and motivations". The gulf this implied was not really bridged by his lecture, perceptive though it often was. The impression left was that, for all their disparate backgrounds, training and research needs, members of the science studies community had more in common among themselves than they did with a working scientist.

Significantly, when Rees touched on a long-studied problem in science studies - how to select research projects for a limited budget - he turned not to recent scholarship but to Alvin Weinberg, himself a scientist. Weinberg's suggestions for criteria for choice are 40 years old. More recent work by non-scientists has, it seems, passed the scientists by.

A related gap in awareness appeared at the annual conference of the British Society for the Philosophy of Science at Sussex University, a week

later. This smaller gathering also saw a mixture of speakers, scientists, philosophers and scientists-turned-philosophers. But there was never a sense that all three were profiting from each others work on a problem of common concern.

The most cogent presentation in the final three sessions came from the biologist Professor John Maynard-Smith of Sussex University. His work on the application of game theory to the evolution of animal behaviour has elaborated a set of extremely elegant ideas about the way strategies in conflict between individuals can be translated into genetic fitness.

At the Imperial College meeting, this apparent lack of interchange between the scientists and their hosts was discussed. Robert Young, the medical Cambridge historian-turned television producer, put the unpalatable view. The absent-minded professor of the 1930s has been replaced by the entrepreneurial, jet-setting scientist whose consciousness of science-society relations is focused on the need for good PR," he judged.

A clue to a different answer came from the cosmologist Professor Bill McRae, who chaired part of the philosophy meeting. At the end of a rarefied debate about the meaning of entropy, which ranged over 100 years of definitions and redefinitions, he asked the speakers: "What do you want to do with these results?" A scientist talking, obviously.

In the end, it seems most scientists find their understanding of such issues sufficient for their needs. They may cultivate an interest in history or philosophy in later life, but active researchers do not have the time.

The STS, for its part, needs to find an audience for its members' work elsewhere, among the science policy-makers and power-brokers. This is already happening in a small way with efforts to apply techniques of etiology analysis developed by sociologists of science to problems of choice and direction in research policy. That effort now involves the United States National Science Foundation and the French national research centre, as well as a project for the British Advisory Board for the Research Councils.

And the philosophers? My guess is they will continue to enjoy talking among themselves.

## Apology to APT expected

by David Jobbins

An apology was expected this week from the chairman of the Inner Education Authority for a letter from one of his colleagues describing a non-TUC polytechnic lecturers' union as "misbegotten and unrepresentative".

Mr Gerry Ross, chairman of the IEA, is likely to write to the local government ombudsman relaying his finding that the authority was guilty of maladministration when Mr Neil Fletcher, chair of the further and higher education sub-committee, bluntly rebuffed a request from the Association of Polytechnic Teachers for union recognition.

But he is predicted to accept the finding from Mr D. C. M. Yrldley, the local government ombudsman for the south east, that an apology is in order over the expressions used. Ironically Mr Ross did not head the authority when Mr Fletcher made his remarks public last year.

An outline letter was drafted at a meeting of the IEA's staffing committee, chaired by Ms Deirdre Wood, late last week. Then Mr Fletcher said he did not believe he had been offensive to the APT and hoped that views should be expressed frankly and unambiguously. But he left an apology was appropriate if anything he had said had trampled too heavily on the APT's sensitivity.

In his letter last year Mr Fletcher rejected the offer of informal talks with the APT and stated clearly that the IEA had no intention of recognizing the union.

He told the ombudsman that the issue was a "political football", calling for a politically-motivated reply. He had not thought it necessary to refer the issue to his committee because it was a political issue and the Labour majority on the IEA was fundamentally opposed to the APT.

The ombudsman did not agree, describing the letter as "offensive and prejudicial". The question should have been considered by members of the authority with the full facts before them, and an injustice had been caused.

His recommendation was that the IEA had in the event recommended against advising the five London polytechnics to recognize the APT, the injustice could be remedied by an apology, but not from Mr Fletcher.

Although the IEA has no direct control over recognition of the APT by the autonomous governing bodies of the five polytechnics, its implicit opposition towards the association will pose problems for infant APT branches started in the higher education colleges following a change of rules widening membership to people teaching at colleges where more than 50 per cent of the work is at advanced level.

At the end of a rarefied debate about the meaning of entropy, which ranged over 100 years of definitions and redefinitions, he asked the speakers: "What do you want to do with these results?" A scientist talking, obviously.

In the end, it seems most scientists find their understanding of such issues sufficient for their needs. They may cultivate an interest in history or philosophy in later life, but active researchers do not have the time.

The STS, for its part, needs to find an audience for its members' work elsewhere, among the science policy-makers and power-brokers. This is already happening in a small way with efforts to apply techniques of etiology analysis developed by sociologists of science to problems of choice and direction in research policy. That effort now involves the United States National Science Foundation and the French national research centre, as well as a project for the British Advisory Board for the Research Councils.

And the philosophers? My guess is they will continue to enjoy talking among themselves.

John Turney



## Overseas news Dutch grants plan scrapped

Mr Wim Deetman, the Dutch minister of education, has announced that money is too tight to permit the introduction of the planned new system for financing students. The government had accepted in principle that each student should be entitled to 80 per cent of the unemployment benefits available to 18-year-olds, and in addition to low-interest loans for the payment of fees and other study costs.

One motive for introducing the new system was the recognition that many 18-year-olds are in practice independent of their parents, and that the traditional "parental contribution" to student provision, weighted according to parental income, was not always desirable or even practical.

This scheme has, however, fallen victim to the latest round of government cost-cutting. In the meantime, becoming increasingly common for students in some forms of further education to study on the quiet, while drawing unemployment benefits.

### Fit to study

A group of United States university presidents is seeking a bigger voice within the administration on inter-collegiate athletics in order to ensure better academic performance by college athletes, who are in effect professional athletes in all but name.

At present, they say, inter-collegiate sports administration seems more concerned with negotiating large television contracts than with college athletes who leave college illiterate or with poor reading skills.

"I think everybody would agree there have been a number of problems and abuses in athletics," said Mr Derek Bok, president of Harvard. "We are trying to strengthen the authority of university presidents in these matters."

### Exam boycott

All but two of the students of the Faculty of Agriculture of the University of Peradeniya, Sri Lanka, are reported to have boycotted their first year examinations.

The boycott, they have told the vice-chancellor, Professor B. Panditharatne, is a protest against his not keeping an undertaking to withdraw punishment meted out to six students on the report of a special committee which investigated certain incidents last year. They were also protesting against police action last July in forcibly ejecting students from the campus and a proposal to set up a police post on the campus.

### Arty fact

A survey made by the Carnegie-Mellon University of Pittsburgh, one of the leading technical universities in the United States, has shown that job offers last May to its current graduates rose 20 per cent for liberal arts graduates and plunged 40 per cent for engineering graduates. (Last May, more than 300 students gained bachelor's degrees at Carnegie-Mellon.)

The fact that liberal arts students at Carnegie-Mellon are required to take courses in computer science and statistics may have ensured that the success of Carnegie-Mellon are greater than those of other US universities.

## Australia urged to establish technology policy

from Geoff Maslen

MELBOURNE Australia needs a technology policy with adequate provision for training and retraining workers and management institutions appropriate to an educated labour force if it is to harness the technological developments needed to pull it out of the current depression, according to Sir Bruce Williams, director of Britain's Technical Change Centre.

Giving a lecture at Deakin University, near Melbourne, Sir Bruce said current theories suggested there was a "bunch" of technical innovations to be brought together and generate waves of rapid growth. Many economists and economic historians believed there had been four distinct waves of high-tech growth since 1770, the first driven by information technology and biotechnology, and the fourth wave being the one we are in now.

## Dublin colleges plan falls victim to cuts

from John Walsh

DUBLIN

Plans for four higher technical colleges in the Dublin area have been quietly put on the long finger pending a Government review.

They join two other major projects which are also being delayed - a new engineering school for University College, Dublin and a dental/medical teaching block for Trinity College, Dublin.

Outside the capital, in the far-flung reaches of the west of Ireland, the small town of Castlebar, Co. Mayo, is wondering if it will ever see the regional technical college promised for it at election time last year. In the midlands, the equally small town of Thurles is having similar doubts about political promises for yet another regional technical college.

Too many political promises in recent years is the reason offered by the present government for the dire state of public finances. The Taoiseach (Prime Minister), Dr Garret Fitzgerald, last month again attacked the kamikaze policies of previous Fianna Fáil administrations.

His coalition government is trying to bring those finances under control with drastic pruning all round, wage restraint and postponement of expensive projects. The slim this year is to bring the government's borrowing requirement down from a very unhealthy 16.5 per cent of the gross national product to a slightly healthier 13.5 per cent, and it looks like succeeding.

The education service has been one



Education minister Gemma Hussey



Premier Dr Garret Fitzgerald

of the sufferers and earlier this year cuts were made in both capital and current provisions.

Tuition fees rises of up to 100 per cent in higher education colleges, the introduction of school bus transport charges for secondary school pupils, a worsening of the pupil teacher ratio and higher fees for taking public examinations were among the measures.

Hopes of some easing in next year's budget were shattered recently by Dr Fitzgerald. He stated bluntly that there was no more leeway in taxation, so further cuts in public expenditure were needed.

Such cuts, of course, are not unique to Ireland but the difference is that the Irish population is still increasing rapidly. The country has the highest percentage of people under 25 - almost half

the total population - and it still has the highest birthrate. The full-time school population is set to reach the 1 million mark in a few years time when the total population will be over 3.5 million.

The education minister, Gemma Hussey, who took the brunt of public criticism over cuts earlier this year, does not want to be cast in the role of scapegoat the next time round.

One way of avoiding this is to attempt to get some form of consensus on priorities for educational spending. To this end she has invited submissions for a forthcoming four-year action programme on education.

The Association of Vocational Education Colleges suggested that many students in technical colleges were "overtaught" with up to 30 class

hours per week given by highly trained and paid staff. More tutorials and practical sessions conducted by lower grade staff could offer savings, it suggested.

The Confederation of Irish Industries went further and complained of proliferation of costly offices in technical colleges, small final year classes and a lowering of productivity among some teaching staff.

It pointed out that the percentage of Irish young people in higher education was about half the rate for countries like France, the United States, Japan and Denmark.

Although the confederation has been an advocate of reduced public expenditure it called for an increase in higher education numbers, especially in technological and business studies. It suggested that money collected under the one per cent levy on income for youth employment measures should be used for this purpose.

The minister is well aware of the difficulties facing her in the preparation of her action programme and has time out recently to publicly warn of a "crisis situation" facing the economy in providing the necessary places.

Addressing, ironically, a group of chartered accountants she said: "I will call for sacrifices by taxpayers and by those with secure jobs. Needless to say, it will demand a rethinking by those working in education about greater increased utilization of personnel and physical resources. I'm hoping to bring these realities home to the country at large."

## UN set to test malaria vaccine on humans

by Thomas Land

Human experiments to test the first vaccine against malaria, the "king of diseases" affecting more than 150 million people in Africa, Asia and Latin America, may well take place soon. Plans for the project, which is to follow many years of work around the world culminating in a breakthrough at New York University, suggest that a crucial dispute involving the United Nations over public access to research results has been resolved.

A cautious announcement made in Geneva by the UN Programme for Research and Training in Tropical Diseases, heading the experiments "in the near future, provided that the necessary financial support becomes available", indicates that detailed plans are already being prepared. There is no shortage of funds for such a project.

The UN's research and training programme is among the financial sponsors of the work carried out at New York University. It is controlled by several global agencies including the World Health Organization (WHO) and the World Bank which are concerned by the disastrous economic effects of tropical diseases in the developing regions.

The reappearance of malaria and the development of new strains of the disease has encouraged intensified scientific research leading to many promising new approaches notably at the Wellcome Research Laboratories at

Beckenham, England, the National University in Canberra, Australia (which officially wiped out malaria in 1981) and at New York University.

Scientists at the WHO think that the New York research breakthrough is worth the Nobel prize. Using genetic manipulation techniques, the scientists have produced a protein carried by the parasite which can stimulate the immune response of the body against the disease. The next steps will involve the large-scale production of a vaccine and its verification of its safety and effectiveness through a long series of carefully monitored and constantly widening trials eventually leading to vast public health projects.

New York University has sought a patent for the discovery and opened negotiations with Genentech, a leading American biotechnology company, about the exclusive commercial exploitation of the vaccine. The WHO has objected on the grounds that its research funds channelled to the New York project through the UN special programme entitled the world organization - as well as all its member nations - to reaping the benefits.

Genentech has hastily retreated from the negotiating table, leaving New York University and the UN to make their peace and find the funds and technology needed for the rest of the project. The announcement by the UN special programme suggests that they have done that.

should be warned by the mistakes in British technology after the war, when there was an excessive pre-occupation with encouraging the "advanced technology" activities of the time - aircraft, atoms and computers.

Technology policy to be effective had to include adequate provision for training and retraining workers by hand and brain, Sir Bruce said. He said the Australian provision was far from adequate. The capacity for industry to develop opportunities depended on investment in research and education and the ability to make adjustments to these to meet new needs.

"I'm in the successful technology policy depends on a mixture of attractive opportunities for innovation, a capacity to identify those opportunities and market pressures to use them."

Sir Bruce, a former vice-chancellor of the University of Sydney, was at Deakin University to give the first in a series of lectures.

## Cashflow problem for Geneva

from Rebecca Irwin

GENEVA

Perhaps the main problem confronting the new rector of the University of Geneva, physicist Marcel Guéhenne, will be ensuring the flow of funds to his still-growing institution. Guéhenne, a 46-year-old professor at the university, and former vice rector, succeeded Jurist Justin Thorens last week.

Of the 26 autonomous Swiss cantons, only eight (Basel, Bern, Fribourg, Geneva, Neuchâtel, St. Gall, Vaud and Zurich) have universities. Because the cantons are completely autonomous in cultural and educational affairs, practically the entire burden of the universities is borne by the cantons themselves.

Each university receives about 15 per cent of its budget from the federal government in Bern, this sum having come down from 20 per cent six years ago. But the federal contribution does not greatly ease the financial strain. University enrolment in Geneva has quadrupled since 1959. Today, 11,000 students are serviced by a teaching staff of 2,000 and an administrative staff of 1,000.

Although the university cannot educate residents from other cantons, they receive little help from their compatriots. Each non-university canton pays 3,000 francs (£325) per student to the university to help share the cost of its students' education. But this aid is purely symbolic: the actual cost of educating a student for one year is about 30,000 francs (£3,200) and rises as high as 100,000 francs (£10,700) for medical students.

Even this symbolic aid is an enormous political concession from the fiercely independent cantons. Last year, the sum is to rise to 4,000 francs (£420) per student per year, but it is politically unrealistic to expect the non-university cantons to contribute anything near the real cost of their residents' education.

Even more burdensome for the universities are the foreign students who study almost free at Swiss universities.

In spite of the financial constraints, it is unlikely the universities will raise tuition fees, even for foreigners as has happened in Britain, according to Christian Reynaud, director of the Student Secretariat of the University of Geneva. He said that such an action would be a "betrayal of the Third World, the Swiss try to help developing countries."

## Representatives ease spending limits

From Janet Hook

WASHINGTON

The House of Representatives has made a move to restore some of the money cut from education and other social programmes during the first years of the Reagan administration.

In a series of votes spearheaded by Democratic legislators the House has approved legislation that will lift spending limits for vocational education, authorize new grants for repairing college buildings and increase the budget for grants to college students next year.

The measures approved by the House, where Democrats have a majority, may not all become law because some face an uncertain fate in the Republican-controlled Senate. But even there, legislators seem more inclined to provide increases in federal aid to schools and colleges than in previous years.

House Speaker Carl Albert, a Democrat from Kentucky and chairman of the House education and labour committee, said the entire education community is looking to this vote - and to the president's signature of this bill - as an indicator of who is really concerned about education.

The bill would authorize a \$1.6 billion expansion in aid to vocational and adult education, support for the arts and humanities, services for handicapped students and several other social welfare programmes.

In action on another bill, the House authorized \$175m (£16m) for college grants for the renovation of campus buildings - provided schools hire un-

employed workers to do the job. The programme would be set up as part of a \$3.5 billion Bill that would create public service jobs in provide relief for the unemployed. However, the whole jobs Bill may die because it faces stiff opposition in the Republican-controlled Senate.

Democrats were split when the House considered the legislation that mattered most in their effort to turn the tide on education budget cuts. The annual Appropriations Bill in which the Congress provides money for individual education programmes.

The earlier House votes will allow the expansion of education and jobs programmes by setting more generous budget ceilings. But it is in the Appropriations Bill that lawmakers decide whether to finance that expansion by actually providing more money.

The Education Appropriations Bill for 1984 was first drafted this summer under the leadership of a Democratic sub-committee chairman, Representative William Natcher of Kentucky, who tried to keep spending increases within bounds. While proposing some

increases in education programmes - including a four per cent increase in Pell grants, the education department's largest programme of grants for needy college students - Mr Natcher and other members of his sub-committee heard that President Reagan would veto a Bill that was too costly.

As drafted by Mr Natcher's sub-committee, the Appropriations Bill was regarded by some Democratic lawmakers as too tight-fisted - a particularly controversial complaint at a time when many wanted House Democrats to take the lead in boosting education spending.

Responding to those criticisms, the House voted 302 to 111 to add \$300m (£200m) for education programmes before approving the Appropriations Bill. The amendment included an additional \$116m (£72m) for student financial aid - which would allow the Pell grant budget to increase by \$2.6 billion in 1984.

The increase may have satisfied some disgruntled Democrats, but Republican critics contended it was irresponsible to increase spending at a time when the federal budget deficit was expected to reach \$200 billion.

## Polish universities fear loss of independence

Polish universities are facing the new academic year with considerable apprehension about the future of the autonomy and self-governance promised under the 1982 Higher Education Act.

Warsaw academics have submitted two statements to the prime minister, General Jaruzelski, one signed by 25 professors at Warsaw University and the other by the rectors of five of the universities of higher education institutions.

Both documents expressed concern that the government's special powers, which replaced martial law, could threaten the independence of the universities.

The special powers allow the government to suspend staff and students and to override the decision of the rector and the academic council in the name of security.

Dr Bronisław Milewicz, the minister of science, higher education and technology, told a press conference in Warsaw that the legislation was basically preventative in nature. It was needed since some higher education establishments had forgotten that the promised self-governance applied only within a legal framework where higher schools were defined as state schools with a socialist character, he said.

The minister stressed however that the academics' statements should be treated with understanding and that the universities' concern for preserving their self-governance should be appreciated.

The Polish authorities have been making considerable efforts to allay the fears of the academic community before the new term commenced. Dr Milewicz dismissed rumours that the government's austerity programme would affect the universities' research programmes.

The government also announced

that the 1,329 university lecturers and staff dismissed in recent months had been asked for inefficiency and incompetence - not for political reasons.

Interviewed by the Communist Party daily *Trybuna Ludu* Dr Eugeniusz Duraczynski, the head of the science and education department of the central committee of the Polish United Workers' Party, claimed that after the sharp ideological struggle in the universities of recent years, a rationalization of attitudes had begun and the influence of hostile anti-socialist groups had diminished.

Nevertheless, new proposals announced in the last few days do seem to threaten the right of universities to determine their student intake. This has long been a battleground between the academics and the ministry - the main point of disagreement being the "bonus points" which young people from proletarian or peasant backgrounds add to their entrance examination marks.

Academics have long been campaigning for a change to this system, which frequently results in the admission of insufficiently prepared candidates, and the government has now agreed to rethink the scheme.

Within the last few days it has proposed that in certain departments intending students should first put in a year's practice in the profession of their choice. Since the jobs mentioned - teaching, farming, the veterinarian and forestry services - are among the most unpopular in Poland, this has been seen as a short-term measure to recruit unqualified labour.

The other proposal concerns the opposite end of the popularity spectrum - the medical schools. Unsuccessful candidates who score 85 per cent or more of the lowest "successful" mark in the entrance exam will be guaranteed a place for the following year.

## India raises standards

From A.S. Abraham

BOMBAY

The University Grants Commission has asked Indian universities to put into effect a new programme of examination reforms aimed at ensuring minimum standards.

To guarantee that students study the whole syllabus, question-papers will cover all of it, offering choice only within a question. They will not exempt students, as has been the case so

far, from answering all questions in a paper. Because of this exemption, students have been encouraged to leave out large chunks of the syllabus and concentrate only on a few areas.

Annual examinations will be held under the new scheme only after a minimum number of lectures have been given on each subject. Because of widespread and regular student unrest, term schedules are disrupted, leaving courses uncompleted.

Not to return home. For the first time Stanford University in Palo Alto has 1,742 overseas students - more than its rival, the University of California at Berkeley, which has 1,726.

Students come to the Bay area from 159 different countries. They fill the teaching assistant and research positions that American students have left vacant after opting instead for the higher wages offered by industry.

More students from China, Taiwan, South Korea, Singapore, Malaysia, Indonesia and the Philippines are enrolling and this "brain gain" helps boost the local economy by more than \$150m (£100m) a year.

Iranian students represent the largest overseas group. There are 1,755 and, not surprisingly, most do

## California experiences brain gain

From Charlotte Beyer

FALLOALTO

Foreign students are pouring into California, attracted by the burgeoning fields of high technology computer science and engineering.

There are now 1,000 at 25 campuses within the San Francisco Bay area. This number is expected to double within the next few years, a new study sponsored by the World



## FBI takes interest in debt agency

From P.E. Burke

OKLAHOMA

Federal officials are investigating a Tulsa-based debt collection agency that may owe as much as \$1m (£600,000) to universities in at least five states. The money was collected from college graduates who had failed to repay loans that financed their studies.

Loan money comes from the National Direct Students Loans Programme. The loans are made via universities and colleges and the students are obliged on graduating to repay the loans with interest.

Increasing numbers of graduates are not repaying their loans. They are declared in default if they fail to make payment within four months.

Federal guidelines require universities and colleges to pursue defaulters with vigour. For many, the simplest and most vigorous way is to turn the matter over to collection agencies.

One of the leading agencies in this field is Collegiate Recovery Inc. (CRI) of Tulsa, Oklahoma, which also has offices in Jacksonville, Florida, and Louisville, Kentucky.

Payments to the universities by the CRI have now stopped completely after dropping off sharply.

The Board of Regents of Oklahoma Colleges has asked for an official investigation and the universities of Texas and Missouri have terminated their contracts with the collection agency. The FBI has seized the agency's books at its head office in Tulsa and they are now being examined by federal auditors.

Former employees of the CRI claim it owes between \$700,000 and \$1m to as many as 100 universities. There may be additional legal and financial complications for students who have paid the collection agency. As their money has not reached the universities, they may still owe it.

## Overseas news Lawyers get just deserts

Lawyers and legal education are returning with conventional forms of justice to the People's Republic of China, whose legal system was shattered during the chaotic 10 years of the cultural revolution.

During that decade, which ended in 1976, there were no practising lawyers in China. Like other intellectuals, they found themselves assigned to other work, usually some kind of manual labour. Together with the existing legal structure, studies of law were abandoned, sharing the disruption suffered throughout all sectors of education.

But the new constitution adopted last year officially restored the legal system, and in past May China there is an urgent need for many times more than the 8,500 full-time lawyers and the 3,500 part-timers who are now employed in this nation of over nine thousand million.

As well as far minimal and civil law work, more lawyers are required for drafting and interpreting the multiplicity of new legislation, much of it arising from the country's return to economic stability and its policy of making contacts mostly for trade, with the outside world.

Current legislation just passed or under consideration includes a patents law, a trademark law, a company law, a foreign economic contracts law and one for foreign partnership joint ventures.

Chinese legal education restarted at the end of the 1970s, with the reestablishment of the Ministry of Justice which became responsible for producing sufficient numbers of lawyers, judges, procurators, other legal officials - and law teachers.

Under the Chinese system, law school graduates with two years of practical experience can qualify as lawyers by taking an examination set by their provincial bureau of justice. But a degree in law is not vital; university graduates with three years' work experience in economic or technical fields who have become familiar with the law relating to those fields may also take the qualifying examination.

There are few failures, but standards for acceptance into the profession will tighten when the current drastic shortage of lawyers is eased. Between 1979 and 1983 a total of about 11,000 Chinese law students enrolled, and about 2,000 graduates each year. There are now law departments in 30 universities and junior colleges, and four institutes of political science and law which are equivalent to law schools in the west.

The newest and largest of these, set up last May, is the China University of Political Science and Law in Peking. Based on the former Peking Institute of Political Science and Law, it consists of an in-service training college and undergraduate and graduate schools.

The university's president, Liu Fuzhi, who is also China's minister of public security, says the primary function of the graduate school will be to train teachers. So far, it has recruited 125 students, who represent four-fifths of the total graduate enrolment of China's four law universities.

The other three institutes are situated at Chongqing in Sichuan province in south-west China; in Shengchi, in the east; and in Xi'an, in the north-west.

As well as the full-time colleges, the authorities are setting up a number of schools and institutes for spare-time and in-service training of legal workers. In the last few years they have trained about 70,000 judicial cadres throughout the country, and are currently training 11,000.

In addition, there are now 5,000 students in China studying law by taking correspondence courses or attending television courses.

With the reintroduction and growth of legal education came the need for textbooks on law. A group of experts under the ministries of justice and education has worked slowly to compile since 1980 54 textbooks and reference books on the fundamentals of jurisprudence, history of the legal system, criminal law, law of procedures, civil law and international law.

Jane Marshall



# On your marks



Getting a place at a university, polytechnic or college this year has been a difficult task. Good grades, personal push and luck have been more important than ever. In the continuing debate on policy the people, the students, are sometimes forgotten. Today *The Times* launches a project to ensure that those students have their say. In *The Class of '83* *THE* reporters have talked to a score of people about to enter higher education for the first time.

About half have secured places at university, and about half will go to non-university institutions. They come from different parts of the United Kingdom. They have been to different schools, their backgrounds vary and in their subject choices they cover most of the range on offer.

We have asked them what they expect from higher education and why they chose their subject or institution. We shall return to them at intervals to see whether their expectations are realized. We hope to see, through their eyes, what it is like now to be at university, polytechnic or college. We may find out much about them and we hope too to find out more about our higher education system.

**EVALARTEY, 18** of Leyton, East London. Studying dentistry at Manchester University. Left Leyton Senior High School for Girls with four A levels (Bs in physics and chemistry and Cs in biology and mathematics).

Her late father was a doctor from Ghana and her mother a nurse, so some form of medical training was always on the cards. She chose to do four A levels with a degree in medicine in mind, but switched her ambitions to dentistry in anticipation of high entrance requirements.

She chose Manchester University because of the structure of the course and her preference for city life.

Eva expects the course, which lasts four years and one term, to be academically demanding but is confident of enjoying life as a student. She will spend the first year in the Owens Park student village and does not anticipate financial problems on a full grant.



**LYNDsay FERGUS, 18** of Humble, East Lothian. Studying textile design at Camberwell College of Art.

Left school in Edinburgh with four B grade Highers in English, Biology, Economics and Art, then did foundation year at York College of Art and Technology which she found very stimulating.

Her father is an architect, her mother a housewife. Spent a week visiting art colleges and chose Camberwell because it was friendly and had the course she wanted. There is an arrangement with St Martin's College of Art as she can study fashion one day a week. Lyndsay has an ambition to set up a shop selling printed textiles with a friend.

**ANDREW BROWNING, 18**, of Tiverton, Devon.

Doing a nautical studies degree at Plymouth Polytechnic. He will do a range of subjects (navigation, naval architecture, hydrography, oceanography) in his first two years and specialize in his third.

Took A levels at Tiverton college of FE (Maths B, Geography C, Physics D) having previously gone to a comprehensive school.

Father is a clerk of works, mother a part-time secretary, neither of them having been to a higher education institution.

Lieutenant-commanders, rather than careers officers advised Andrew who wants to join the Navy as a commissioned officer.



**JEAN MENICOLL, 18**, from Lezley, near Glasgow. Studying English at Trinity College, Oxford.

Went to Lezley Academy, a comprehensive where she gained seven highers, with A passes in English, French, History, maths and modern studies, a B in German and C in music, and three sixth year studies certificates with an A in French and Bs in English and German.

Her father is a journalist, and her mother a general practitioner.

She chose Oxford partly because of its challenge and partly because she can study pure English, whereas a Scottish degree would have included other subjects.

She is unsure what to expect. "You think of *Brideshead Revisited* and dreaming around, which is probably quite misleading."

"You do need a bit of determination," she admits. "The interviews where they grill you about your exam papers were quite frightening."



**JULIE HALLAS, 18** of Pudsey, Yorkshire.

Doing a one-year arts foundation course at Kramer College, Leeds.

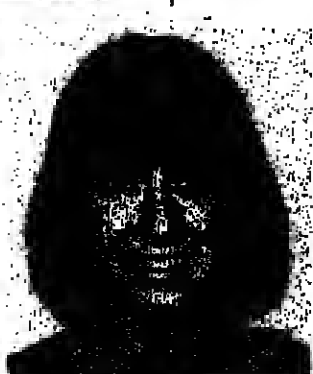
Left Orangefield mixed comprehensive school with A levels in 'art' and English literature, both Ds.

Her course attracts no mandatory grant and is the only one Leeds, the local authority, would allow her to do. They will pay her something towards her materials and half her bus fares - a total of about £48. Her parents will give her pocket money.

Her father is a wholesale fruiterer, her mother an ex-stap assistant.

She says A level art prepared her only to pass an exam in drawing, painting and art history, so now she is eager to try out as much as possible before applying to do an art and design degree next year.

She has little time for fine art and artists. "I know many fine artists would condemn me for saying it, but I don't think there's much point to it unless it's got a practical use in society."



**ROSALIND THOMSON, 19** of Romford, Essex.

Taking a BEd honours degree in mentally handicapped teaching at Manchester Polytechnic. Her four-year course will last two years of study.

Left St Edward's Church of England School, Romford, with A levels in English (B), Sociology (C) and History (D). The school wanted her to go to university.

Rosalind wrote to 16 institutions and chose the poly course as it would qualify her to teach either mentally handicapped or in a primary school. She felt a degree in English followed by PGCE would not be so relevant.

Her parents - father a purchasing manager and mother a medical records worker - have not pressured her.

Rosalind's attraction to this field has been partly influenced by her sister who is mentally handicapped, and she decided to become a teacher after working in special schools and clubs.



**MICHAEL DAVIS, 20** from Watford, Herts.

Studying law at Kingston Polytechnic.

Before A levels at Chater School, a comprehensive in Watford, he set himself up with a job in the civil service.

For the past two years, during which he took an A level and re-applied for higher education places, he worked as a clerical assistant at the Office of Fair Trading in central London. Clerical work was not challenging. "It made me more determined to end up in a worthwhile job."

Father is a foreman and mother an auxiliary nurse, both originally from Jamaica.

Michael wants to be a solicitor. He plans to steer clear of student politics, but is a keen athlete and born player.

He does not drink or smoke, but expects his full grant to run short. "He knows his parents expect a great deal of him. They know how hard it is at present to get good jobs. I am not planning to let them or myself down."



**EMMA JANE WILKINSON, 18** of Billerica, Essex.

Taking a primary BEd in religious studies at Bishop Grosseteste College, Lincs.

Has three A levels (History C, Sociology C and English D) and ten O levels, taken at a comprehensive.

Emma Jane, a committed Christian, chose religious studies at Bishop Grosseteste as a double act of faith - it was on this DES list of courses but specialises in primary work and is small.

Moreover, the college's prospectus was the last and the best to arrive and conveyed an overall friendly atmosphere.

Her head references only if she included Homerton College in her choices.

Her parents did not push her into teaching, but her mother, disabled after a brain operation when Emma Jane was six months old, was formerly a primary school teacher. Her father works for the Performing Rights Society.

**PAUL SMOLINSKI, 18** of Newcastle upon Tyne.

Reading economics at York University.

Failed maths A level but got a place on the strength of an A in history and a B in economics. He is thought by Walbottle High School, a large comprehensive, to be the first person from one of the Newcastle's tougher estates to go into higher education.

His father, a factory worker, and mother, an airport receptionist, have been supportive.

Paul will be about £4,000 a year worse off. He took a permanent job in a bank because he felt his A levels would be insufficient for a university and he did not want to go to a polytechnic. The bank offered him sponsorship but he preferred to keep his career options open.

His parents will now have to contribute towards his grant, part of which will go on a ball place. Paul's main motivation was his strong interest in economics and his preference for York was a combination of attraction for the course, the size of the university and its campus setting.

Paul will be about £4,000 a year worse off. He took a permanent job in a bank because he felt his A levels would be insufficient for a university and he did not want to go to a polytechnic. The bank offered him sponsorship but he preferred to keep his career options open.

His parents will now have to contribute towards his grant, part of which will go on a ball place. Paul's main motivation was his strong interest in economics and his preference for York was a combination of attraction for the course, the size of the university and its campus setting.

Paul will be about £4,000 a year worse off. He took a permanent job in a bank because he felt his A levels would be insufficient for a university and he did not want to go to a polytechnic. The bank offered him sponsorship but he preferred to keep his career options open.

His parents will now have to contribute towards his grant, part of which will go on a ball place. Paul's main motivation was his strong interest in economics and his preference for York was a combination of attraction for the course, the size of the university and its campus setting.



**STEPHEN REID, 18**, from Ballymoney, Northern Ireland. He is to study business administration at Queen's University, Belfast.

He got a C in physics, B in chemistry and D in mathematics at the 400-strong 90 per cent Catholic school he went to. Stephen only decided at the last moment to plump for university rather than try for store management at a large retail shop where he had a part-time job. He favoured Trinity College, Dublin but was put off when people said it was too big "and you were just a number". Queen's, he thought, would be more friendly.

"I think there will be a sort of independence, cooking for yourself, looking after yourself. It will be more of an experience than just gaining a degree, three years broadening your horizons."

His mother is a kitchen assistant, his father a lorry driver. His father advised him to get a job because of the economic state of the country, but his mother said he should go to university, and he is now glad he has decided on that course.

She had a 10-minute interview with a careers officer who advised her to study home economics, but when she failed higher English, she looked for another course and was attracted by the Gala prospectus.

"I don't really know what I want to do when I graduate."

For most of the class of '83, student awards will be their first independent income. In London the grant, reduced in line with parental income, is a maximum £1,975 and elsewhere in the UK £1,660. Students living at their parents' home can expect a maximum of £1,275, while those receiving free board and lodging are eligible for up to £680.

Because many details of the grant levels were announced late in the summer, many students face delays in receiving cheques from their local authorities.

**KENNETH GEORGE MACLEAN, 18**, of Golspie, Sutherland.

Doing a BSc in electronic and electrical engineering at Robert Gordon's Institute of Technology in Aberdeen. Has five highers - As in English, physics and geography, Bs in maths and chemistry, from Golspie High School, the local comprehensive, where he was dux.

His mother is a secondary school teacher and father an insurance agent. He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.



**CATRIONA CORFIELD, 18**, from Edinburgh.

Going to Scottish College of Textiles in Galashiels, one of Scotland's 14 central institutions, to take a BSc in textiles with clothing studies. The four year degree, validated by the Council for National Academic Awards, is a sandwich course, with the third year spent in industry.

Attended the Royal High School, the local comprehensive, and gained five highers: an A in food and nutrition, and Bs in maths, chemistry, geography, and fashion and fabric.

Her father is so architect and mother a secretary.

She had a 10-minute interview with a careers officer who advised her to study home economics, but when she failed higher English, she looked for another course and was attracted by the Gala prospectus.

"I don't really know what I want to do when I graduate."

For most of the class of '83, student awards will be their first independent income. In London the grant, reduced in line with parental income, is a maximum £1,975 and elsewhere in the UK £1,660. Students living at their parents' home can expect a maximum of £1,275, while those receiving free board and lodging are eligible for up to £680.

Because many details of the grant levels were announced late in the summer, many students face delays in receiving cheques from their local authorities.

**KENNETH GEORGE MACLEAN, 18**, of Golspie, Sutherland.

Doing a BSc in electronic and electrical engineering at Robert Gordon's Institute of Technology in Aberdeen. Has five highers - As in English, physics and geography, Bs in maths and chemistry, from Golspie High School, the local comprehensive, where he was dux.

His mother is a secondary school teacher and father an insurance agent. He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.



**SARAH DUDLEY, 26**, from London.

Doing Russian studies at London University School of Slavonic and East European Studies. Went to six different schools and left at 16 with six O levels. Travelled and worked in a variety of jobs before ending up as a secretary. Took French A level after a part-time evening course. She has a long interest in Soviet literature and last year went on holiday to the Soviet Union.

"I know I may end up as a secretary again. So many graduates I know are secretaries. But now I really want to go to university. I know I am ready for it and I will really benefit. After such a long gap I know it will be very hard to concentrate and write essays."

She is looking forward to getting involved in student life, but also aims to keep up her flat and battered car. It will mean working in the holidays to boost her full grant.

"Most people will be a lot younger than me so I am not expecting too much. And I want to keep my old friends."

For most of the class of '83, student awards will be their first independent income. In London the grant, reduced in line with parental income, is a maximum £1,975 and elsewhere in the UK £1,660. Students living at their parents' home can expect a maximum of £1,275, while those receiving free board and lodging are eligible for up to £680.

Because many details of the grant levels were announced late in the summer, many students face delays in receiving cheques from their local authorities.

**KENNETH GEORGE MACLEAN, 18**, of Golspie, Sutherland.

Doing a BSc in electronic and electrical engineering at Robert Gordon's Institute of Technology in Aberdeen. Has five highers - As in English, physics and geography, Bs in maths and chemistry, from Golspie High School, the local comprehensive, where he was dux.

His mother is a secondary school teacher and father an insurance agent. He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.



**TRACY SIMPSON, 22**, from Manchester.

Doing a humanities foundation course with the Open University. The course is a second crack at higher education following the bilingual secretary's course she followed after leaving her secondary modern school at 16. "I was under quite a lot of pressure from the school to stay on and go to university, but I didn't want two more years for A levels, then three years doing a degree," she said.

But after several jobs and time spent travelling abroad, she is set on being the first in the family into higher education by following OU studies right through to a degree. She has full-time job as a secretary and will have to get in around 12 hours of study a week.

Nol for her pleasures of campus life, beyond a compulsory one-week summer school. The course proper starts in the new year, but Tracy is eager to begin.

For most of the class of '83, student awards will be their first independent income. In London the grant, reduced in line with parental income, is a maximum £1,975 and elsewhere in the UK £1,660. Students living at their parents' home can expect a maximum of £1,275, while those receiving free board and lodging are eligible for up to £680.

Because many details of the grant levels were announced late in the summer, many students face delays in receiving cheques from their local authorities.

Because many details of the grant levels were announced late in the summer, many students face delays in receiving cheques from their local authorities.

**KENNETH GEORGE MACLEAN, 18**, of Golspie, Sutherland.

Doing a BSc in electronic and electrical engineering at Robert Gordon's Institute of Technology in Aberdeen. Has five highers - As in English, physics and geography, Bs in maths and chemistry, from Golspie High School, the local comprehensive, where he was dux.

His mother is a secondary school teacher and father an insurance agent. He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.



**KIRSTEN TAYLOR-DUNCAN, 19**, of Larbert, Stirlingshire.

Doing a four year BA degree in landscape architecture at Edinburgh College of Art, validated by Heriot-Watt University. Has already had a brush with higher education. Left local comprehensive, Larbert High School, last year with five highers (Bs in English, geography and art, and Cs in chemistry and biology) and went to Napier College in Edinburgh to do a BSc in science with industrial studies. She had difficulty with the course, which included maths and physics, and left after a month. She was given little careers help at school, but sought advice from a sympathetic careers officer outside school after leaving Napier.

"Heriot-Watt is the only Scottish university that does landscape architecture and I didn't want to go to England. It includes horticulture, botany and art, which I'm interested in. I've also joined the British Trust of Conservation Volunteers and there may be some scope for conservation."

For most of the class of '83, student awards will be their first independent income. In London the grant, reduced in line with parental income, is a maximum £1,975 and elsewhere in the UK £1,660. Students living at their parents' home can expect a maximum of £1,275, while those receiving free board and lodging are eligible for up to £680.

Because many details of the grant levels were announced late in the summer, many students face delays in receiving cheques from their local authorities.

Because many details of the grant levels were announced late in the summer, many students face delays in receiving cheques from their local authorities.

Because many details of the grant levels were announced late in the summer, many students face delays in receiving cheques from their local authorities.

**KENNETH GEORGE MACLEAN, 18**, of Golspie, Sutherland.

Doing a BSc in electronic and electrical engineering at Robert Gordon's Institute of Technology in Aberdeen. Has five highers - As in English, physics and geography, Bs in maths and chemistry, from Golspie High School, the local comprehensive, where he was dux.

His mother is a secondary school teacher and father an insurance agent. He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.

He found advice from teachers and a visiting careers officer helpful and his class was also visited by schools liaison teams from Robert Gordon's and Aberdeen University.



**KATE LEONARD, 18**, of Andersonstown, Belfast.



As the Class of '83 starts the new term, we look at other aspects of student life

## Playing the NUS power game

by David Jobbins

The rival groups of student politicians vying to establish their power bases in the universities and colleges at the beginning of the new year have their sights firmly fixed on a point some seven months ahead.

The intervening period will be dominated by the knowledge that at the Easter conference National Union of Students president Mr Neil Stewart must step down after two years at the helm of the 1.2 million member organization.

Already the possible contenders are emerging and the battle lines drawn with the big question: can the National Organization of Labour Students not only find the right candidate to retain the presidency but also hang on to its majority on the NUS executive.

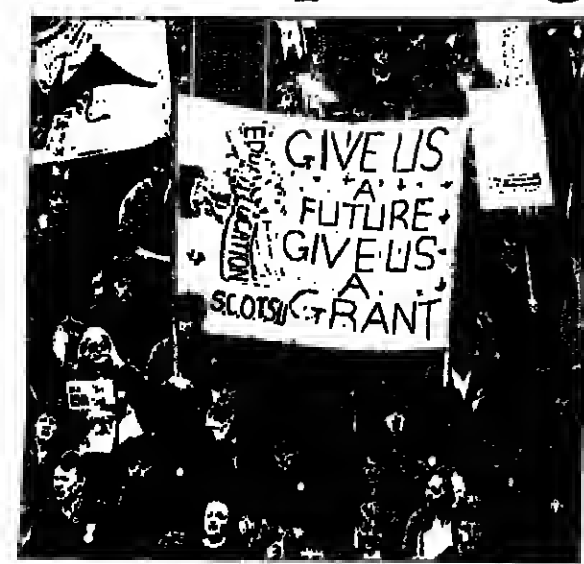
Much will depend on the strengths of the political groupings in the colleges, as beginning with the Christmas conference delegations are to be elected by cross campus ballot giving the non-activists a stronger chance to influence the direction NUS takes.

NOLS has espoused cross campus ballots knowing that its success at local level will more than even depend on the calibre of its candidates and the appeal of its policies.

Neil Stewart takes great pride and claims some credit for the virtual elimination of the extremes of left and right from national student politics. It remains undeniable, however, that NUS's image in the wider world is essentially left-wing, with its expressions of uncompromising opposition to Government educational and economic policies and its support for CND.

The NOLS leadership belongs largely to Clause Four, the party faction based on strict adherence to the party constitution and the supremacy of party conference decisions over political expediency. But the organization is a broad church mirror of the parent party and as Labour party membership is not a prerequisite, it also includes assorted left wingers among its members.

NOLS won the approval of its parent party for firmly resisting the Militant Tendency both among its own membership and in fighting off attempts by the Militant-dominated Labour Party Young Socialists to re-



Students have been more effective at mobilizing against Government policies than other trade unions. Here they demonstrate earlier this year against the threat to public sector higher education.

crut further education college students.

But the real battle over coming weeks will be for the middle ground, with the Social Democratic Party Students attempting to rise once more from the ashes.

SDPS has been engaged in lengthy talks with both the Union of Liberal Students, with whom they have no formal links, and the Left Alliance, of which ULS is a constituent part. Although a number of SDPS members may have joined the Left Alliance, however, the chances of a formal association are slim, largely because of the presence within the Left Alliance of the Communist Party of Great Britain students. Policy differences particularly in the area of defence also preclude SDPS linking up formally with the Left Alliance or the ULS, which shares the radicalism of the youth wing of its parent party.

SDPS feels it has great potential among the non-aligned students, and is embarking on a full-scale recruiting drive. It is represented on the NUS national executive, and one of its leaders is on the party executive.

The Liberal students, both within and outside the Left Alliance, remain the most volatile of critics of the NOLS leadership. They argue that NOLS public commitment to pluralism — the reflexion of the wide band of student

opinion in the composition of the union executive — is paper thin, pointing to the voting pattern over the past year.

The vacuum on the left is of crucial concern to the Left Alliance, which existed really only as an umbrella organization for NUS national elections. Since it was largely wiped out by NOLS in 1982, it has attempted to establish local power bases with limited success. With the SDPS and the left in NUS and has stressed the need to raise the level of debate and provide an alternative to NOLS.

NOLS will be deciding who to run for the presidency in January but already three possibilities are being mentioned. They are Mr Tommy Sheppard, NUS vice president for education and one of Neil Stewart's political opponents within NOLS; Mr Phil Woolas, NUS treasurer; and Mr Bob McClean, chairperson of NUS Scotland. Sheppard is in his second term as a full time member of the executive and must seek an alternative if he is to remain on the executive next year. But he is far from popular in some quarters of the student movement and was extremely lucky to be re-elected at last Easter's conference with the smallest winning margin in NUS history — a mere three votes.

Phil Woolas in his first year as a

full time and is said by some to lack the experience and charisma demanded of an NUS president. One disadvantage to his candidacy is that it would mean NOLS contesting all its seats on the executive simultaneously, leaving open the possibility of losing key people.

Bob McClean is close to Neil Stewart politically and socially. Both share a Scottish background and Stewart was chairperson Scotland before gaining the national presidency. The idea of a Scottish succession becoming established could count against him.

Another Labour Party member who may be standing is Sarah Veale, vice president welfare, who commands a considerable personal following among conference delegates, receiving an enormous vote of confidence last Easter. She was associated with the SSA but left last year and works closely with her NOLS colleagues. Many observers regard her as difficult to stop if she does stand.

The obvious candidate for the Left Alliance to field is Jane Taylor, the union's national secretary, who again has a considerable wealth of support among students and is well regarded by other organizations with which NUS works. She is perhaps the only non-Labour Party candidate who might stand a chance of dislodging NOLS.

SDPS has previously stood presidential candidates more as a flag waving exercise than a real bid for power and it might be persuaded to support Ms Taylor.

But one area she would not openly want to receive support from is the right. The Federation of Conservative Students is now once more acting squarely within NUS and might run a presidential candidate. Equally it might prefer to line up with the opposition to NOLS.

1984 could see the frequently forecast emergency of the Student Ecology Movement whose significance has been often underestimated at local level. And above all cross campus ballots will put power back in the hands of the non-aligned.

NOLS leaders believe that many moderate and apolitical students would prefer to stay that way rather than sign up with SDPS or the Left Alliance.

In the meantime there is the real stuff of student politics to deal with — the student response to the National Advisory Body exercise, grants and housing.



## Small but perfectly informed

by John O'Leary

The students in our Class of '83 are mostly the lucky ones to their position of entrants to further and higher education. All but two have grown, even if their parents do have to contribute, unlike the thousands of their contemporaries joining courses which do not enjoy the same official status.

Sources of expert advice and assistance for those who do not qualify for state support tend to be thin on the ground. Students' unions will give what help they can and the college or university concerned may provide strictly limited finance where a hardship fund exists.

Those who want concrete information putting them in touch with the organizations which might help when local authorities have been found wanting have to fall back on a telephone in East London. The Educational Grants Advisory Service was established in 1962 and is now based under the wing of the Family Welfare Association after a period when its future was anything but certain.

The service has only one full-time worker, student adviser Margaret Wisdom, but this year has handled record volume of inquiries, 1,300 written, and almost 1,000 by telephone. Inquiries have steadily increased in the three years since the service rejoined the Family Welfare Association, largely because of the cuts in the number of discretionary awards offered by local authorities and in the number of grants made by research councils. Inflated overseas student fees have also encouraged a spate of activity.

New support by local authorities and particularly by student unions has put the service on a sounder footing, to the point where a much-needed expansion of staff may be possible.

The service is primarily intended to help those from disadvantaged groups. Mature students who did not fulfil their potential at school, despite parents seeking qualifications to enable them to support their families, the unemployed, the disabled, refugees, recent immigrants and certain students from overseas are the categories emphasized in its publicity.

Unless more staff can be afforded, the service has almost reached saturation point even with negligible publicity. With more than 30 student unions now referring cases, as well as a number of local authorities and the National Union of Students, the risk of being swamped by inquiries is a delicate balancing act between enlisting more unions and authorities as members to finance the system and attracting even more pleas for help.

Among those who have been successfully assisted recently include a school-leaver unable to obtain a grant for a dentistry course because she had been supported for an anatomy degree which was a necessary qualification, an African student whose father was made redundant midway through an accountancy degree and an Asian immigrant needing support for the final year of a level course to gain entry to a polytechnic.

Inquiries, either about membership or about help with grants, should be addressed to The Education Grants Service, 501-503, Victoria Road, London E8 4AU.

Andrew Snelson

The author is going to Southampton University to study environmental studies.

## WORLDWIDE

## Sanctuary and guardian of the national conscience

One of the enduring clichés of the Communist world is that Poland is a "special case". Although it is a fully paid up member of the Warsaw Pact and Comecon, its agriculture is largely in private hands, its writers and artists are notoriously self-willed and the Roman Catholic church claims the allegiance of over 80 per cent of the country.

In the Soviet Union what the Communist Party decrees is passed down the line like a Mosaic tablet: in Poland Party decisions are viewed with polite interest like an abstract painting, to be ignored, rejected or accepted according to creed and calling.

Even this ostensibly oddball status however does little to prepare one for the shock of the Catholic University of Lublin (KUL). A central feature of a Communist or would-be Communist system is that the state has absolute control over education. Yet since 1918, in the middle of what is now the communist bloc, there has been a university run principally by priests, teaching thoughts that would be considered subversive outside its cloisters, printing its own books, speaking unspoken truths and keeping alive its own Catholic and resolutely non-communist traditions.

This is a very special sanctuary that has sheltered the politically persecuted, that has fought hard for its existence and its independence and is a landmark testimony to the tenacity of the church as a guardian of the Polish national conscience.

The Reverend Józef Benedykt Radziszewski, formerly rector of the Theological Academy in St Petersburg, founded the university, financing it with the patronage of two noblemen Karel Jaroszyński and Franciszek Skapski. The Russian revolution brought this patronage to a swift end but Radziszewski secured the financial backing of the Polish Episcopate which groups all the country's bishops and lay Catholics.

This persists to the present day with a third of the running costs coming from quarterly collections held by parish priests throughout Poland. The rest of the money comes from the Society of Friends of KUL — some 400,000 Polish Catholics who make regular donations — and foreign contributions, especially in America and Canada.

This financial base gives the church some leverage with the government in asserting the independence of KUL. But the government can limit this power. The ministry of higher education defines the broad framework of the university curriculum, it restricts — as it does all state universities — the number of lay students, it has the final say over whether a KUL degree should

Focus on two very different universities. Roger Boyes reports from Warsaw on the resolutely non-communist Catholic University of Lublin and (below) Bill Purdue on the enterprising new University of East Asia

Czesław Miłosz receives an honorary degree at Lublin (right). Below: the Pope is a former KUL teacher



smoke in the quadrangle, flicking back long hair. Theatre groups thrive — but so does questioning politics.

Among the student noticeboards there is one all earmarked for Solidarity, the banned trade union, presumably awaiting its return. Students, both priests and lay Catholics, have been involved in protests in support of Solidarity and there is not much doubt that a majority of the staff is behind them.

Were you a member of Solidarity, I asked Irena Ślawinska who has taught at KUL for decades and who is now professor of drama. "Of course," she said. "Who was not?"

The Ministry of Higher Education had decreed that KUL should suspend or expel some dozen students active in Pro-Solidarity protests. The rector appealed to the Catholic primate cardinal Józef Glemp who then intervened with the Polish leadership. With that kind of staff-student solidarity there has been little demand for more student participation in university decision making.

The Higher Education Act of 1982 — though it does not reach the democratic pinnacles once demanded by Solidarity — gives a substantial say to the university in electing its own rector. But in this respect at least KUL lags a little behind some universities in the state sector — perhaps there will eventually be student participation at the higher reaches, but at the moment, the staff say, there is no popular pressure to do so.

The autonomy of the university is

secured by a statute ratified by the church and, in 1938, by the Polish republic. This statute grants KUL an equal status with state universities as regards students' rights and privileges. It also guarantees students an equal social status in employment opportunities.

In fact it does not always work out quite like that. KUL graduates who want to embark on university teaching careers outside their alma mater sometimes have problems and many have to start up the career ladder as provincial schoolteachers. Some university staff see this simply as part of a national trend: deteriorating graduate employment prospects is not an exclusively western feature.

Even so, in the 1960s the government's power to withhold jobs was quite clearly used against uncomfortable KUL graduates and even now the Lublin provincial authorities make no great secret about their preference for state graduates over those from KUL when given a choice. Perhaps they are afraid that the KUL graduate with his full share of banned history and banned literature will prove to be a subversive influence on their charges. Perhaps they are right.

Karol Wojtyła, later to become Pope John Paul II, taught ethics at KUL and to this day ethics is a compulsory subject for all students — another unique feature in an East European university. Ethics in theory, ethics in practice. The university has given shelter to those like Professor Ślawinska who were thrown out of their jobs for participating in lay Catholic activities (in her case, in 1949) or more overt politics.

It has always stood up for the correct Christian attitude in difficult political times. In 1939 KUL professors, university officials and students were arrested by the Germans, some of them sent to prison, others to concentration camp. Two lecturers, Father Michał Niechaj and Czesław Martyniuk were executed. In the Stalinist era the rector and five professors were arrested.

After martial law was declared in the winter of 1981, at least one lecturer was interned. In common with other universities, KUL was suspended for some two months by the martial law authorities so that it could not become a focus for opposition.

The motto of the university is *Deo et Patriae* — God and country — and the essence of the university's teaching is that the Catholic faith has a specific mission in Poland. That message was driven home recently by a conference at KUL in which Poland's two cardinals, more than 20 bishops and hundreds of theologians took part. With all the subtlety of the church, its historical and biblical allusions, the participants made clear that the Catholic faith, and perhaps even KUL, would outlast communism in Poland.

That lesson is understood not only by cardinals, but also the ascetic scholars of KUL and even the fledgling priests who after evening demonstrations clamber through the windows of their locked dormitories.

## Small but ambitious

of the first students in 1981, some continue to argue that the university is too closely allied to business interests.

One must, however, look beyond Macau. Although it badly needs the skills of higher education to assist in its industrial and commercial growth, it is too small to support a university. The future of the university depends upon the establishing itself as a major university for the Chinese community outside the People's Republic and acting as a cultural bridge between Chinese overseas and mainland China.

The attractions of a university, at once international in character with English as the principal medium of instruction, and yet situated near China should be considerable for overseas Chinese, some of whom are experiencing difficulties in gaining a suitable education because of nationalism and Islamic fundamentalism in parts of South East Asia. For the People's Republic, pursuing the four modernizations in the wake of the catastrophe of the cultural revolution, there is every reason to look favourably upon a university providing technical and managerial skills which are adjacent to Guangdong's second special economic zone.

The difficulties confronting the university are, however, formidable. The international character of the university cannot be acquired overnight while the recent decline of business confidence in

Hong Kong cannot have assisted financial planning.

The private enterprise backing for the university is generous and a great deal of expenditure has been necessary to get the university to its present position with an attractive campus and during 1982/83 some 450 residential and 2,500 part-time students. There are, however, limits to the finance available which have resulted in an academic base which is dangerously narrow and a dependence upon fee income to promote further expansion.

For full-time degree students in the university college, three degree courses are available: arts, social science and business administration. There were only 60 such students in the first year, although entrants doubled in year two and almost all of them were pursuing business administration, raising the question of whether the university would achieve sufficient breadth.

As well as university college, three other colleges nestle under the UEA umbrella, the junior college, the college of continuing education and the open college. A majority of the full-time residential students are, in fact, members of the junior college studying to A level standard. The college offers an important ladder of opportunity to students from Macau who may previously have had little opportunity to study English.

The college of continuing education offers both full-time and part-time courses in areas such as

Portuguese, English, computer studies and advertising design.

The open college, which teaches courses designed by the Open University and New Zealand's Massey University, began its first academic year in September 1982 with over 1,000 part-time students, mainly in Hong Kong. As yet, however, it has not obtained permission from the Hong Kong authorities to open study centres and face to face teaching there.

The university is an ambitious venture. Its more modest aim of providing opportunities for Macau students and becoming a major resource for the local economy has already been achieved. Its wider ambition to become an international university can only be realized in the course of several decades.

There are difficulties in recruiting and retaining staff in certain areas, for Macau, although a fascinating place, does pose problems for expatriates who can find themselves feeling somewhat isolated and claustrophobic. The success of the Open College venture will depend greatly upon a decision to be taken by Hong Kong University and Polytechnic Grants Committee which is at present considering the question of an Open University for Hong Kong.

A considerable boost to UEA's morale was given by the success of a joint Open University/UEA delegation to China last autumn. Peking's approval is essential to any enterprise in Macau and is fundamental to the university's aim of forging links between the People's Republic and China outside the Republic.

## A year of experience in a different world

For the sixth-form leaver wishing to spend a year out in the Third World before going to university, opportunities and opportunities are few. Volunteer Service Overseas want only trained and, preferably, experienced workers to operate their projects, and this is a reflection of the wishes of the developing countries themselves. There are a handful of organizations which give young people a chance to work overseas, such as the World Community Development Service (WCDS), but their places are limited.

Yet a year between spent in the Third World can be very valuable to a school-leaver. Apart from gaining in

self-confidence and self-reliance (any person who can fend for themselves in a Third World environment should have no problems in surviving as a student in cosy Britain) he or she will greatly increase global awareness and will return to education with a wider perspective of the world and its people.

My own year out was spent as a teacher at a boys' secondary school in Zambia. Having applied to one or two development agencies and met with no success, I managed to come to an arrangement with the education secretary of the United Church of Zambia (UCZ) to work in one of the

five schools which the church manages within the country. The agreement was that I would work purely on a volunteer basis and would meet virtually all costs myself. The school gave me a house and paid for my work permit, electricity and water bills (the total cost to my parents, including the return airfare and the year's upkeep (not to mention holidays in Malawi and Zimbabwe), was about £1,600).

Kafue Secondary School is situated near the town of Kafue, some 30 miles south of the country's capital, Lusaka. Government pressure to squeeze as many students as possible into the existing schools has pushed the roll at Kafue up to 70, most of whom board at the school.

The academic life of the school was organized very much along the lines of the comprehensive school in Hertfordshire which I had attended. With a five day, 40 period working week. Having been established as a mission school and still managed by the UCZ, it employed about a half of the 25 teaching staff were working under the auspices of British, American, Canadian or European mission boards. All teaching was carried out in the medium of English; Zambia's official language.

This presented a few problems when teaching the new arrivals in form one, most of whose English was very poor, and also produced the use of dictation, with junior classes (all notes were copied down from the blackboard) but otherwise caused few difficulties; many students left the school with an excellent grasp of the English idiom.

Within 24 hours of arriving at Kafue I found myself standing in front of a class of 45 first formers to whom I was to teach general science. Never before I thought before I was very apprehensive as to how I would cope. My fears were soon dispelled. Zambia's education system is very competitive, only about 10 per cent of those who leave primary

schools are able to obtain a place in the first year. At the end of the second year there is another selection process. As a result, there was no lack of motivation among the pupils, most of whom were extremely anxious to learn, and discipline presented few difficulties.

Since Zambian children generally start school later than their British contemporaries, I was teaching boys of a similar or even greater age than myself; not that this caused any problem. On the contrary, I found it very easy to get on with the boys outside the classroom and they perhaps found me easier to approach than some of the older members of staff.

With the help of a very friendly staff, I found the transition from student to teacher a relatively easy one, and was soon given a full teaching load of 30 periods a week. In addition, I took my turn as duty master, helped start a science club, assisted with football and athletics, led services in the school chapel and taught geography at evening classes for adults from the surrounding villages. In my last term I was appointed a form master. When the time came to return to Britain, it was a great wrench to leave the school and to say goodbye to my many Zambian friends. I regarded it as a compliment that the headmaster, who had been understandably dubious about taking me on, agreed to accept another British school-leaver (a woman) in my place.

A year in the Third World can be very rewarding. And the school-leaver has the ultimate satisfaction of being able to offer a real service, albeit small, in a country where needs are great and resources limited. If only there were more opportunities.

Andrew Snelson

The author is going to Southampton University to study environmental studies.

## THE TIMES SUPPLEMENTS REPRINT SERVICE

Education & Training for Employment: A further report on this very important area of education examines developments which have taken place since last year. A six-page reprint first published in THES in July 1983. Price 70p.

Enquiries about other reprints available should be sent to Linda Bartlett, at the address below. Telephone 01-253 3000.

All prices quoted include postage and packing within the UK but not hand delivery or Red Star delivery.

Please send me..... copies of Education & Training for Employment @ 70p. I enclose my cheque, made payable to: Times Newspapers Limited, in the sum of £.....

Signed..... Date.....

Name..... Address.....

Please return this coupon to: Frances Goddard, The Times Supplements, Priory House, St John's Lane, London EC1M 4BX.



**TABLE 1**

...erocomputers, our teachers are pressured into attending conferences on the new technology, the Council for National Academic Awards insists that the information technology should be an issue for debate in the validation of courses" and so on.

This political intervention in education has not been restricted to making a siphon for the transmission of information about an imminent "information age". It has extended so much deeper that it can only be seen as an

Relatedly, most "new blood" lec-

Science and technology parks and the like are simply an indication that higher education is being forced to sell itself, to turn itself more and more into a service for industry. Doing so, it becomes increasingly dependant on the whims of the market place. And

and stifling or education into an "information age" on the terms of industry because it undermines what we take to be the primary goal of education — to engender critical faculties in its charges, to stimulate questioning minds, to respond to society as a whole rather than just sections of it. What we are getting in place of these is education as accessory, education as technique.

from the ranks of those who, by formation and vocation, should have led the opposition to sophistry but from the deep rooted good sense of a customary world-view, in whose unconsidered reactions an oldlar philosophy and theology had left deposited an inbred ability to discriminate between the reality of the world and the successive illusions of the dreamers. But where custom, the sediment of past experience, is discounted, as it is increasingly today, philosophically in-

The last was the dedicatee of Jonas' first book – a study of St. Augustine and the problem of free will, published in 1930. Four years later followed the first volume of his book on Gnosticism and its role in the world of late antiquity. By the time this appeared, Hitler was in power and Jonas, a Jew, had left the land of his birth, vowing never to return except as a soldier in a conquering army. Twelve years later he redeemed his promise when he re-entered the defeated Reich as an

The thesis running through *The Phenomenon of Life* (1966) embodies an autonomous search informed by the findings of biologists and psychologists rather than in debate with other philosophers. Jorås is among those who have renewed the Aristotelian tradition of treating philosophical anthropology

In recent years, focus on the areas where the sciences of nature impinge upon those of man has shifted from the ethological approach associated with Konrad Lorenz, which is concerned with the study of behavioural patterns, to sociobiology, which emphasizes the formation of the visible patterns of life by the invisible imperatives of genetic survival. To judge by their popular writings, the sociobiologists, whatever their merits as exponents of the discoveries of micro-biology, are much inferior to nature in the arena of the

motility and consciousness, still less self-consciousness of the human sort, have not yet appeared on the horizon. There is more than metaphorical significance to this observation. The organism is not a static substance maintained by physical forces within itself but essentially, a continuing performance of self-sustaining processes entailing intercourse with what is other than itself. The "self" of the organism is pitted against the "other" of the world within which, by which and against which it is obliged to negotiate.

This is a problem that can have no easy solution. Technological progress neither could nor should be reversed

'nature' has been obliterated: the life of men, once an enclave in the non-human world, spreads over the whole of terrestrial nature and usurps its place. The difference between the artificial and the natural has vanished: the natural is swallowed up in the sphere of the artificial, and at the same time the total artifact, the works of man working on and through himself, generates a 'nature' of its own, the necessity with which human freedom has to cope in an entirely new sense. Once it could be said *fiat justitia, pereat mundus*, 'Let justice be done and may the whole world perish'.

At every level it is, as it were, the active yet dependent partner whose identity endures unchanging. The transformation of substance which occurs in the intercourse of self and world is both an assault on the integrity of the environment and the necessary condition for the organism's survival. Between the parties a balance must be maintained and while this is achieved automatically in every other case, man's It requires no conscious effort. Balance, in fact, the possibility of continuing existence, is threatened by the human capacity to transform the

*The author is senior lecturer in sociology at Middlesex Polytechnic.*

The wider issue of how the media report political violence was to surface on more than one occasion. Clearly the public wants to be informed about violent events and violence makes good news. Political violence, if it is to make its point, needs to get publicity. Thus the men of violence and the readers of newspapers (or watchers of television) feed off each other: the media act as a channel between them. But how far should that go?

That was a pertinent question for Jim Pat Coogan, author of *the IRA* who addressed the conference on the first day. Despite inroads made by supergrass he was in no doubt that the Provisional IRA would "pop up again" and that its cyclical fortunes were a product of the "insatiable for freedom" that lay behind its campaign. The Government's security policy had not, in Coogan's view, been

**E. Moxon Browne**  
The author is senior lecturer in

## E. Moxon Browne

The author is senior lecturer in political science at the Queen's University of Belfast.

10-10-68

مكتبة المجلد



On heated notepaper which appropriately bears its name in both English and Korean, the British Association for Korean Studies (BAKS) announced its first full conference. In Sheffield last week. The chosen theme was the centenary of Anglo-Korean relations - in 1883 the first treaty between the two nations was signed. Scholars from both Britain and Korea gave papers on various aspects of the two countries' relations: diplomatic, commercial, literary, religious, and military.

All well and good, one might feel: an encouraging example of growing links between British academics and a fascinating yet neglected country.

But to engage in Korean studies is to live in a political minefield. Every move, every decision has political implications, however trivial it might seem.

Take that heated notepaper, for instance. The Korean version of BAKS' name is rendered in Chinese characters: in South Korea, where characters are used as well as the Korean *hangeul* alphabet, this would be normal practice. There are, however, two states on the Korean peninsula. In North Korea, Chinese characters are no longer used. Wittingly or otherwise, the notepaper offends North Korea - not a very auspicious way to start.

It gets worse. The characters used for "Korea" spell *Hankuk*, the name South Korea uses. North Korea, on the other hand, calls itself by the older term *Chosen*. So the slight to North Korea is compounded. On this subject, BAKS might just as well call itself BAKS.

One apparently trivial example serves to illustrate the extraordinary difficulty of studying a nation which is divided into two states, each of whose prime foreign policy goals is to frustrate the other. Moreover, the context in which we have to operate is itself far from neutral. For obvious reasons of postwar history, 99 per cent of Britain's existing Korean links are with South Korea. Indeed, we "do not recognize North Korea as a state, nor the authorities there as a government"; or so it was informed by Lord Belstead when he was a junior minister at the Foreign Office. To say home this point, HMO's current policy is to refuse visas to North Koreans except those visiting for commercial reasons so even if we had invited North Korean scholars to the BAKS conference, they would not have been allowed in.

North Korea has built itself a reputation as both unpredictable and unreliable in dealing with the outside world and would certainly have balked at our conference theme. Not only because, strictly, there are no "relations" with Pyongyang to celebrate; but North Korea also takes a decidedly dim view of that treaty of 1883, preferring to regard it (like its predecessor with the US in 1882) as part of the inequities of imperialism imposed on a declining late feudal Korea. So a seemingly harmless peg on which to hang a conference turns out not to be neutral, either.

Given the delicate problem of maintaining, (or seeking to maintain) eye-balance between North and



Dead dictator Park Chung Hee

American fighter pilots in the Korean War used to fantasize blackly about being shot down and not knowing on which side of the North/South parallel they had landed; a few degrees of latitude meant the difference between prison and possible torture, and, of course, nowadays, we are little more aware of differences in language, script, culture and the Koreans are still lumped together. AIDAN FOSTER-CARTER considers the problems of "disinterested" academic study of a politically sensitive area, and one which is all the more controversial given recent events and Korean relations with the super-powers.



Park's successor, Chun Doo Hwan

## Korean minefield

South Korea as states, what sort of dealings should one have with the present regime in South Korea? As is widely known, power in Seoul is wielded by a military dictator, Chun Doo Hwan, who elbowed his way to the top in the months after the previous similar strongman, Park Jung Hee, was shot by the head of his own CIA in November 1979. Chun cemented his rule by massacring the citizens of the city of Kwangju, who had risen in defence of democracy. Under Chun, like Park before him, universities are infiltrated, students are intimidated and beaten up, and professors (like other critics) are dismissed and jailed.

Ironically, however, this regime which keeps its own intellectuals on a tight leash goes out of its way to lavish attention (and more) upon foreign academics. Indeed, Seoul's enthusiasm for winning friends and influence has in the past carried it well beyond what is proper or even lawful. As revealed in the "Koreagate" scandals in the USA in the late 1970s, the South Korean CIA constructed a truly monstrous web of bribery, corruption and sharp practices.

US academic opinion was a major target of the CIA. Thus, for example, something called the "Research Institute for Korean Affairs" was set up near Washington DC in the early 1970s, headed by a former general, Kang Young Hoon. Rika, it was later revealed, was largely funded by the CIA, though this source was concealed by what the Congressional report called "a large-scale laundering operation".

In December 1976, as the Koreagate revelations were beginning to break, Kang Young Hoon left the USA. Rika folded soon after. But former general, former Professor Kang was to embark on yet another career. For he is currently accredited ambassador of the Republic of Korea to the Court of St James and his - on this record, at least ambiguous - presence graced the BAKS conference in Sheffield.

There are three possible positions for the disinterested scholar. The purist one, which has much to commend it, would keep a firm distance from both Korean governments, and avoid doing anything which indicates either a leaning to one side or a commitment to a despotic regime. Above all, it would refuse to take a penny (or a word) from either of them.

Unfortunately but perhaps predictably, examples of such purity - whether individual or institutional - are few. Even in the USA where major alternative sources of funding for Korean studies exist, only the University of Washington to my knowledge has refused South Korean support. Many others have actively solicited it.

Here in Britain, the Korean Studies Association has for several years been funding two posts in the Korean Studies Unit at Sheffield. As a result, the numbers of people enabled to learn Korean, in the UK have multiplied. There has been no suggestion of any KTA or other Korean interference: KTA donates, and Sheffield disposes.

Despite the theoretical attraction of the purist position, to implement it in Britain would easily mean that there would be no Korean studies whatsoever. In such a situation, then, Korean funding may make the difference between something or nothing. Provided everything is open and above board, and there is no question of influence or interference, it should be accepted. This then is my second position: a cautious acceptance of aid, without strings attached.

The risk, however, is that this may slide imperceptibly into a third position: namely, that acceptance of South Korean funding leads one to restrict the scope of Korean studies in such a way as to avoid raising contentious issues and giving offence. This is a very active risk in the Korean case, as can be seen from the record of the Association for Korean Studies in Europe (AKSE).

Undoubtedly, for most of its members most of the time, AKSE is no more than a normal academic organization of area specialists. As it happens, most European Koreanists (unlike their US counterparts) specialize in arts subjects rather than social sciences, and in traditional rather than contemporary Korea. It has thus not seemed as insistently artificial as it might have done that successive AKSE conferences have steered resolutely away from discussing the social, economic or political of post-1945 Korea.

Yet it remains the case that AKSE's foundation at least dovetailed neatly with a plan for regional Korean studies association masterminded from Tokyo by one Choe Suk Myun, a convicted murderer later exposed as a KCIA operative. AKSE's first conference, in London in 1977, was also highly contentious: it turned out ultimately to have been substantially but indirectly funded by South Korean government sources. Finally, not surprisingly perhaps, AKSE has had uneven success in attracting East European Koreanists, and almost zero in approaching Pyongyang.

It would be a tragedy if BAKS were to go the way of AKSE. Not that AKSE is either corrupt or useless. But it has consigned, in my view, to being severely circumscribed if not completely abandoned. The off-exposed wish, by some of its leading lights, to "exclude politics" seems like a willful self-inflicted lobotomy, as well as exceedingly naïve.

In a much less ambiguous instance of what not to do in Korean studies, many of us in Korean Studies received earlier this month an unsolicited gift of what turned out to be five handily boxed and produced cassette tapes. With them came a letter from the managing director of Audio Learning Ltd, a London firm, announcing their "Korean Studies Cassette Library". No

other indication of source or sponsorship was given.

Four of the five tapes are of scholarly interest, though the tenor of the two on economic issues and reunification is markedly conservative. All the other two are on music and art. The two would seem to be of American provenance. The remaining one, however, features two luminaries of the British academic far right: K. W. Watkins of Sheffield, and Prof. H. S. Ferns of Buckingham. Both are renowned more for their apparent support for Seoul than their specialist knowledge of Korea.

Their account not only praises the allegedly "democratic" Chun Doo Hwan regime, but in its survey of South Korean political history completely omits any reference to the brief periods of democracy between dictators, in 1960/61 and 1979/80. One is used to history being treated this way in Pyongyang, say, with inconvenient episodes simply being deleted from the record. But here in Britain 1984 would seem to have arrived a year early.

It is depressing, then, that the South Korean government has evidently not yet learned to be open and honest enough to label activities which it has manifestly sponsored with the equivalent of a government health warning. No less disconcerting, is the apparent willingness of a British firm and British academics to go along with this. Unacknowledged subvention of supposedly "independent" and neutral initiatives was a hallmark of Koreagate. We do not want to see this same thing happen here.

Still less should we countenance another old Seoul dirty trick at the Association for Asian Studies conference in San Francisco earlier this year. Two speakers scheduled to give papers on Korea with somewhat critical titles were contacted by local South Korean consuls: one, who was Korean, found it prudent as a result to withdraw his paper.

Of this, so far, there is as yet no evidence in this country. I trust it will remain so and that in future BAKS will not hesitate to feature papers - or even whole conferences - whose line may not be to the liking of Seoul (or Pyongyang, for that matter, though that we have accomplished already).

Finally, one of the few things North and South Koreans agree on is a concept called *chajin*. Difficult to translate (and akin to the better known North Korean *juiche*), it means something like: independence, autonomy, being master in one's own house. Both North and South Koreans, it is said, without justice, that the quest for *chajin* has been a major goal in their respective development strategies. Neither of them, however, has shown themselves much inclined in the past to encourage or even tolerate *chajin* in others. All too often, they have attempted to dominate, to bully, to bribe, to wheedle, to suborn. For both Korean governments to respect BAKS' *chajin* would be a most welcome development. But, if they are to respect it, we have first to practise it.

The author is a lecturer in sociology at the University of Leeds.

## Failings of the exam system

Grading children into winners and failures is misguided and destructive, argues J R Bureau

There is, in practice, a great watershed between those educators who pessimistically believe that an enthusiasm for learning is a rarity - perhaps even a suspicious abnormality - and those who are convinced that the learning process is intrinsically exciting and naturally sought by the majority. In the same way management philosophies are divided into belief in the big stick and the belief that everyone wants to work well and given half a chance will do so. The big stick view of education, like most such philosophies, provides short-term benefits by concentrating on the needs of the educators at the expense of the education.

While actual, physical brutality is no longer considered a decent element in the educationalist's tool-kit, much of the remainder of that outwardly respectable tool-kit suffers from similar deficiencies in outlook and a similar poverty in its orientation.

At the heart of the system is the (usually unspoken) axiom that competition is as natural, beneficial and necessary to education as it is to society. If there is no race, there is no incentive.

Few who applaud the current system - in education, as in society - would deny the validity of its jungle-warfare view. On the contrary, the fierce exultation of parents and teachers when their children "win" endorses the belief in winning over losing, of academic "success" over "failure".

Such a philosophy teaches pessimism. All other things being equal - determination, level of involvement, capacity for work, enthusiasm - to label one student as a success because of scores in A levels, and another as not, by virtue of a level "failure" is as offensive and irrelevant as calling him or her a failure for being black, or blue-eyed or below average in height.

To praise a lazy and calculating student for reaching a 2:1 when his or her abilities are recognizably those of a first class honours candidate is as stupid as to label someone a "third" when obtaining this level of achievement called upon total dedication, work and enthusiasm.

If we are going to insist on a grading system for human endeavour, then let it at least be related to the individual's potential and not to an arbitrary and mean-spirited distribution curve of human competence.

The existing competitive philosophy runs against the natural current of

subjects being badly handled.

In a fluid system, where students change subjects and courses as and how they wish (more or less) the bad teacher would very quickly reveal his or her incapacity. In the eighteenth century in Scottish universities, it is said that teachers were paid *per capita* of attendance at their lectures. The American tradition of routine student opinion-of-staff surveys serve the same purpose, if more humbly.

Education viewed as competition has some very destructive effects on the very society it is supposed to enhance. Every field of knowledge - with perhaps a very tiny number of exceptions - in the hands of a hard and enthusiastic teacher, is capable of stimulating the interest and even the excitement of virtually any of the nation's children.

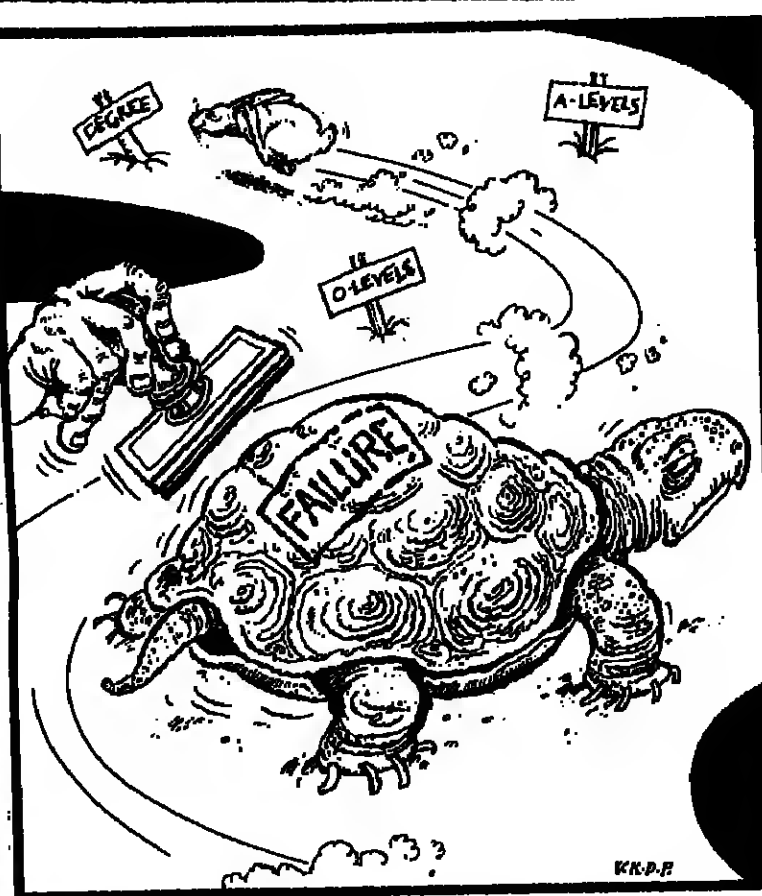
And yet it is the almost universal experience of the taught that the process of education leaves the population only eternally grateful when it's over. While some of the resistance to the learning process must be due to the fact that an inevitable proportion of all subjects are plain hard work, and some of the hostility arises from the poor quality of teaching that is pretty universal, much of the dislike for school generated must be due to the endless rounds of testing and measurement: form tests, term tests, prelims and finals, CSE and O levels - the endless opportunity for the education system to make the child aware of its relative failure in the system.

Thus for a child to find most school subjects boring is "normal", to have a number of them is universal. Additionally when a pupil fails to understand a subject under such a testing system, it is a matter of shame and anger, where it should be a matter to be simply sorted out until illumination dawns; but teachers under pressure to supply "results" find pushing the quick pupils more rewarding than hauling at the slow ones.

The fixation on measurement and categorization has the unfortunate side effect of leading to that considerable pool of problems known as "bringing up the children". Test scores, class positions, passing and failing examinations and the sub-divisions of honours degrees play havoc in families with parents ambitious for their children.

Society is training its intellectuals to accept the current educational system. There is no conservative like a young conservative. There is no status like *quo*.

Ultimately it seems tragic that



education in our society should be so persistently a matter of dross and drab hard work, memory tests and constant measurements of personal inadequacy, when the acquisition of knowledge and wisdom should be the most intensely exciting and rewarding of all human activities.

The cure for such a serious disease is not self-evident as to detail, but it is as to principle. What has to stop is the competitive principle which insists on perpetual tests and humiliating tables. Examinations and tests will have to disappear. Entry to all and every institution will have to be open to everyone who chooses to enter, and the state will have to ensure it can cope with any increase in those choosing to take part.

Schools and universities may set framework requirements for particular subjects - as for education in general - but it should be the responsibility of teachers to bring the students to those standards, not the responsibility of the student to prove he has reached it. The framework of specifications for any and all subjects may be - and should be - very demanding.

It will no doubt sound idealistic, utopian - perhaps even wildly eccentric.

In fact it is the way hnbystis educate themselves in the subject of their own choosing and interest. It is the way all real learning happens: by personal interaction between interested teacher and stimulated student, prodded into finding out for himself without admonition and inculcation of inadequacy.

While ultimately the details for alternatives to present educational systems are crucial, in the first place they are not as relevant as the discussion which must take place as to the diagnosis of the disease. When there is acceptance that competitive examinations and certification are the demonic principles at the core of the education's disease, then society is ripe for radical change.

One useful start in our universities might be to change nothing except to greet the fresher on his first day with the university's gift of a (general) degree. The three of four years that follow can then be devoted to education and not to the acquisition of the parchment. Which are not the same things.

The author teaches in the marketing department at Strathclyde University.

## Wanted: a degree of direction

According to the DES/Welsh Office Handbook, Long Course for Teachers 1980/81, some 55 tertiary institutions provide master's degrees in education. The 55 institutions are comprised of 32 universities, nine polytechnics and 14 colleges or institutes of higher education. Every one of these master's programmes involved course work and the presentation of a dissertation. Hence, for example, the much discussed credit ("rolling ball") system remains largely untried.

These statistics raise a number of interesting points. First, the universities continue to offer the most solid, widest range of taught master's courses; a situation unlikely to change in the near future. Second, most of the 23 other institutions mounted their courses during the 1970s often in response to the changing face of teacher education as much as student need. This represents a significant increase in the number of degrees offered at this level over a comparatively short period of time. Third, the growth in the influence of the CNA is most marked. Explicitly, 15 non-university institutions had their degrees validated by this body. CNA's increasing influence is manifest by the fact that between 1973 and 1979 the number of higher degrees in education which it awarded rose from 309 to 1133. Fourth, by 1980 and despite the problems of accreditation, colleges and institutions of higher education offered 50 per cent more taught master's courses in education than the polytechnics.

These expansionist master's degrees in education is a recent event which has occurred within a system "flooded" by change and insecurity and as a consequence response to a peculiar set of circumstances. This has had an impact on the character and quality of courses being offered, which may or may not be deleterious to the standards tacitly demanded of higher degrees. The need for master's degree courses in education is being met only partially and there is a need for more effective course design.

Course planners must take their clients' needs into consideration. Primary or secondary teachers require courses which enhance their professional self-concepts and abilities. To achieve this, many more master's courses should be school-focused and onabito the recipients to benefit and put into practice what they have learnt. This is a not new - the Universities Council for the Education of Teachers (UCET) recognized the problem some time ago.

A number of issues have recently emerged which have substantially altered and increased the pool of candidates for master's courses. Since the late 1970s, teaching has become an exclusively graduate profession and non-graduate teachers have been encouraged to do in-service degrees. The shifting structure of many advanced diploma and certificate courses is unlikely to be replaced by MEd degree programmes. The teaching profession has contracted following a decline in birthrate. This trend is already beginning to result in an increasingly static and ageing teaching force for whom the prospect of promotion have been bleak. This being so, other ways of enhancing feeling of professional competence are sought. Some

teachers have found this through advanced study: quite correctly, many teachers take a great deal of pride in the possession of postgraduate degrees. It is doubtful, however, whether this increased demand for higher degrees has increased the quality of education to British schools. Why? The answer is complex.

Staffing for MEds is often diverse and ad hoc, course content is often arbitrary and reflects staff competence rather than need, standards and criteria for assessment are frequently loosely articulated and there is a lack of guidance by external support bodies for course development. In some ways it is probably fair to draw an analogy between the work of Bembun, Reid and Patrick in their inquiry into the *Structure and Process of Initial Teacher Education in Universities in England and Wales* (SPTIE) and the prevailing situation in the different kinds of MEds currently on offer.

Moreover, it is hard to avoid a feeling that while some master's degrees exact the highest standards from students, others are little more than second undergraduate courses in education. In this respect, there are frequently significant differences between research and taught master's degrees in education.

Traditionally, access to postgraduate education has depended upon the possession of either a very good honours degree or a SSRC or DES grant or both. With the increase in demand there has been a reduction in qualifying standards for teachers wishing to do higher degrees. In the main this is no bad thing: teachers should be encouraged to do advanced work and professional competence is not necessarily reflected in the possession of a first class honours degree. There is, however, a danger that with a booming market (and this applies to both British and overseas students), some institutions may lower their entry standards in order to cater for larger numbers of students. In this situation there is a definite danger that the standard of the degree may become devalued.

This is more likely to happen in university departments of education who have autonomy over their admission regulations, than many polytechnics and colleges, whose students are subject to the stringent and rigorous assessment procedures of the CNA, which ironically are set and monitored by universities or well-known non-university persons. It is to the credit of many university departments that those temptations are being resisted and standards maintained whenever possible.

There are no ready panaceas or solutions which will overcome existing problems. Indeed, for reasons which have little to do with educational values, things may get worse rather than better as expertise in some institutions fails to be replaced.

Leaving staff to one side, another aspect of the idiosyncratic nature of

The present direction of master's courses in education is not fixed securely enough to a sound rationale for progress and improvement in teacher education, say Ken Reid and David Hopkins. They argue that although the demand for and provision of master's degree courses in education is burgeoning, little is known about their quality, design or effectiveness.

courses is disagreement on course content. This problem has many bases and one of them is of critical concern for teacher education. Teacher education is not regarded as a discipline. In the past this has militated against the emergence of teacher education as a field of study in its own right.

The theory practice dichotomy has long been recognized as problematic in teacher education. Nevertheless, the blending of the two is difficult to achieve, despite the fact that the one cannot effectively exist without the other. The utilization of a problem-centred approach, the school focus, appropriate pedagogy, teaching styles and a suitable learning milieu, suggest a practical way of approaching this issue. Encouraging students to theorize about practice and to regard theory as hypothetical and intelligent rather than correct is part of the same approach.

There is a real need for more innovation, experimentation and research into the structure and content of master's degrees in education. Just as some initial teacher education courses have recently been the subject of considerable scrutiny, so it is time that master's degrees received similar attention. Without such work, the real issue will never be fully understood.

The authors are principal lecturer and director of educational research, and lecturer in educational research respectively at West Glamorgan Institute of Higher Education. Their book, *Rethinking Teacher Education*, will be published by Croom Helm next year.

## If I were God...

When I was very young I'd sometimes daydream about what I'd do if I were God. Later I made a downward adjustment, imagining what it would be like to be a king. When I learned in school about the Holy Roman Empire and discovered that emperors had it all over kings, I moved my fantasies back up a notch, but there was another downward adjustment as my dreams became more patriotic and less global. I began to plan what I'd do if (when) I became President of the United States.

Now I'm 43 and have been neither elected nor appointed; my highest elected office to date is that of vice president of the Sawyers Bay and Kaitake Residents and Ratepayers Association, incorporated. This is indisputably a major duty, from the position of a major duty, and it's with some sadness that I must record that even my fantasies have been constrained with age. No longer do I dream of ending segregation, of giving everybody a straight A, of doing away with acne, or turning swords into ploughshares (though as a boy in Baltimore I had only the vaguest notion of what a ploughshare might be). Now when I daydream, it's of what I would do if I were president of a small to medium-sized college or university. (I take some comfort to the fact that I haven't yet hit the old row of fantasies, imagining what it would be like if I were a department chairman.)

Given that a college president has

little chance of stopping tooth decay or balaclavaing war, what is there left to fantasize about? Well, I like to picture myself being referred to in reverential tones by grey-haired, academic-gowned colleagues as "a President of the University".

The next question is this: On what basis should a certain resemblance to Paul Newman (and not to Paul Robeson, for goodness here) who does clearly-eyed vision in a presidential actuality mean? The answer, I'm sure, differs from president to president, but here are some of the visions I'd strive for if this current fantasy turns out to have more chance of success than my earlier ones.

One great compensation for the limited financial power of academia is the lifelong check to learn from scholars and teachers. But most universities I've seen have produced the most obvious means to this end, sitting in on the classes of colleagues. These usually exist in an unspoken rule against one colleague becoming a student of another. Professors rarely hear other professor's lectures, thus giving us a great opportunity for both learning and teaching.

So I'd be president, the first thing I'd do would be to encourage my colleagues to teach each other. I'd

the academic community, myself included.

The obvious place to start observing is wherever you happen to be. When I was at high school in Baltimore, The I would at that time be no different from the other students in the world. Now I'm at a university in Vermont, my faculty colleagues taught us not being special about the plants and flowers of that region. When I was a graduate student in the heart of New York City, no "vision" was offered in urban psychology.

It's not just a matter of the environment, affecting the institution; any limited financial power of academia is the lifelong check to learn from scholars and teachers. But most universities I've seen have produced the most obvious means to this end, sitting in on the classes of colleagues. These usually exist in an unspoken rule against one colleague becoming a student of another. Professors rarely hear other professor's lectures, thus giving us a great opportunity for both learning and teaching.

So I'd be president, the first thing I'd do would be to encourage my colleagues to teach each other. I'd

view that the main function of an introductory course is to introduce. It could give a decent taste - not a watery or a sugary substitute, but a real taste - of psychology or geology or zoology to the student who may eventually pursue these areas in an entirely different field. The introductory course should be designed for students seeking a broad education, not for the specialist-in-training.

There are certain actions which are both right and smart: involving students in university decisions is one of them. I believe that student participation in decision-making has always been ethically correct; it's the most intelligent course as well. The student body as well as faculty and administrators should be regularly involved in solving the problems and facing the responsibilities which confront their institution. What's at stake for us is at stake for them as well.

Probably the best known study in social psychology was conducted by Milgram. At a time when the world was in a state of confusion, he found that individuals could be both created and broken down simply by altering the activities in which they were engaged. When

When activities demanded cooperative effort to achieve shared goals (for example, when Sheriff arranged for a truck to get stuck in the mud, requiring the teams to push together to get it unstuck), cooperation and friendship quickly replaced the earlier feelings.

Many colleges and universities today are stuck in the mud. Faculties and presidents file lawsuits against one another, presidents and boards of directors issue angry press statements about one another, and departments claw at one another for an extra cent of shrinking funds. No one proposal will resolve these problems, but one can be found to bring some cooperative activity to the campus. I suggest that the university as a whole undertake a project, one that requires the combined skills and strengths of all its members to succeed, the project should be useful, challenging, and have a goal that is at least semi-tangible so that it may become a source of mutual pride.

If all this seems a big step down from ruling the universe, somehow I must not feel that disappointed. Now that I've said I'm not sure I want all the responsibilities of a real god.

Jules Older

The author is coordinator of the behavioural sciences at Ohio State University.



On headed notepaper which appropriately bears its name in both English and Korean, the British Association for Korean Studies (BAKS) announced its first full conference, in Sheffield last week. The chosen theme was the centenary of Anglo-Korean relations - in 1903 the first treaty between the two nations was signed. Scholars from both Britain and Korea gave papers on various aspects of the two countries' relations: diplomatic, commercial, literary, religious, and military.

All well and good, one might feel: an encouraging example of growing links between British academics and a fascinating yet neglected country.

But to engage in Korean studies is to live in a political minefield. Every move, every decision has political implications, however trivial it might seem.

Take that headed notepaper, for instance. The Korean version of BAKS' name is rendered in Chinese characters: in South Korea, where characters are used as well as the Korean *hangeul* alphabet, this would be normal practice. There are, however, two states on the Korean peninsula. In North Korea, Chinese characters are no longer used. Wittingly or otherwise, the notepaper offends North Korea - not a very auspicious way to start.

It gets worse. The characters used for "Korea" spell *Hankuk*, the same South Korea uses. North Korea, on the other hand, calls itself by the older term *Chosen*. So the slight to North Korea is compounded. On this showing, BAKS might just as well call itself BAKS.

One apparently trivial example serves to illustrate the extraordinary difficulty of studying a nation which is divided into two states, each of whose prime foreign policy goals is to frustrate the other. Moreover, the context in which we have to operate is itself far from neutral. For obvious reasons of postwar history, 99 per cent of Britain's existing Korean links are with South Korea. Indeed, we "do not recognize North Korea as a state, nor the authorities there as a government"; or so it was informed by Lord Belstead when he was a junior minister at the Foreign Office. To ram home this point, HMO's current policy is to refuse visas to North Koreans except those visiting for commercial reasons as even if we had invited North Korean scholars to the BAKS conference, they would not have been allowed in.

North Korea has built itself a reputation as both unpredictable and unreliable in dealings with the outside world and would certainly have balked at our conference theme. Not only because, strictly, there are no "relations" with Pyongyang to celebrate; but North Korea also takes a decidedly dim view of that treaty of 1903, preferring to regard it (like its predecessor with the US in 1882) as part of the inequities of imperialism imposed on a degrading, late feudal Korea. So "seemingly harmless" as it may seem, to hang a conference theme out not to be neutral, either.

Given the delicate problem of maintaining (or seeming to maintain) even-handedness between North and



Dead dictator Park Chung Hee

American fighter pilots in the Korean War used to fantasize blackly about being shot down and not knowing on which side of the North/South parallel they had landed; a few degrees of latitude meant the difference between prison and possible torture, and success. Nowadays, we are little more aware of differences in language, script, culture and the Koreans are still lumped together. AIDAN FOSTER-CARTER considers the problems of "disinterested" academic study of a politically sensitive area, and one which is all the more controversial given recent events and Korean relations with the super-powers.



Park's successor, Chun Doo Hwan

## Korean minefield

South Korea as states, what sort of dealings should one have with the present regime in South Korea? As is widely known, power in Seoul is wielded by a military dictator, Chun Doo Hwan, who elbowed his way to the top in the months after the previous similar strongman, Park Chung Hee, was shot by the head of his own CIA in November 1979. Chun cemented his rule by massacring the citizens of the city of Kwangju, who had risen in defence of democracy. Under Chun, like Park before him, universities are infiltrated, students are intimidated and beaten up, and professors (like other critics) are dismissed and jailed.

Ironically, however, this regime which keeps its own intellectuals on a tight leash goes out of its way to lavish attention (and more) upon foreign academics. Indeed, Seoul's enthusiasm for winning friends and influence has in the past carried it well beyond what is proper or even lawful. As revealed in the "Koreagate" scandals in the USA in the late 1970s, the South Korean CIA constructed a truly monstrous web of bribery, corruption and sharp practice.

US academic opinion was a major target of the KCIA. Thus, for example, something called the "Research Institute for Korean Affairs" was set up near Washington DC in the early 1970s, headed by a former general, Kang Young Hoon. Rika, it was later revealed, was largely funded by the KCIA, though this source was concealed by what the Congressional report called "a large-scale laundering operation".

In December 1976, as the Koreagate revelations were beginning to break, Kang Young Hoon left the USA. Rika folded soon after. But former general, former Professor Kang was to embark on yet another career. For he is currently accredited ambassador of the Republic of Korea to the Court of St James and his - on this record, at least ambiguous - presence graced the BAKS conference in Sheffield.

There are three possible positions for the disinterested scholar. The purist one, which has much to commend it, would keep a firm distance from both Korean governments, and avoid dealing with anything which indicates either a leaning to one side or a commitment to a disinterested take. Above all, it would refuse to take a penny (or a won) from either of them.

Unfortunately but perhaps predictably, examples of such purity - whether individual or institutional - are few. Even in the USA where major alternative sources of funding for Korean studies exist, only the University of Washington's knowledge has refused South Korean support. Many others have actively solicited it.

Here in Britain, the Korean Studies Association has for several years been funding two posts in the Korean Studies Unit at Sheffield: one in modern history, the other in language. As a result, the numbers of people enabled to learn Korean, in the UK have multiplied. There has been no suggestion of any KTA or other Korean interference; KTA donates, and Sheffield disposes.

Despite the theoretical attraction of the purist position, to implement it in Britain now could easily mean that there would be no Korean studies whatsoever.

In such a situation, then, Korean funding may make the difference between something or nothing. Provided everything is open and above board, and there is no question of influence or interference, it should be accepted. This then is my second position: a cautious acceptance at arm's length, without strings attached.

The risk, however, is that this may slide imperceptibly into a third position, which is very much to be objected to: namely, that acceptance of South Korean funding leads one to restrict the scope of Korean studies in such a way as to avoid raising contentious issues and giving offence. This is a very real risk in the Korean case, as can be seen from the record of the Association for Korean Studies in Europe (AKSE).

Undoubtedly, for most of its members most of the time, AKSE is no more than a normal academic organization of area specialists. As it happens, most European Koreanists (unlike their US counterparts) specialize in arts subjects rather than social sciences, and in traditional rather than contemporary Korea. It has thus not seemed as insidiously artificial as it might have done that successive AKSE conferences have steered resolutely away from discussing the societies, economies or politics of post-1945 Korea.

Yet it remains the case that AKSE's foundation at least dovetailed neatly with a plan for regional Korean studies association masterminded from Tokyo by one Choe Suh Myun, a convicted murderer later exposed as a KCIA operative. AKSE's first conference, in London in 1977, was also highly contentious: it turned out ultimately to have been substantially but indirectly funded by South Korean government sources. Finally, not surprisingly perhaps, AKSE has had uneven success in attracting East European Koreanists, and almost zero, in approaching Pyongyang.

It would be a tragedy if BAKS were to go the way of AKSE. Not that AKSE is either corrupt or useless. But it has consented, in my view, to being averily circumvented. If not compromised, and the oft expressed wish, by some of its leading lights, to "exclude politics" seems like a willful self-inflicted lobotomy, as well as exceedingly naive.

In a much less ambiguous instance of what not to do in Korean studies, many of us in Korean Studies received earlier this month an unsolicited gift of what turned out to be five handily boxed and produced cassette tapes. With them came a letter from the managing director of Audio Learning Ltd, a London firm, announcing their "Korean Studies Cassette Library". No

other indication of source or sponsorship was given.

Four of the five tapes are of scholarly interest, although the tenor of the two on economic issues and translation is markedly conservative. The other two are on music and art. All these would seem to be of American provenance. The remaining one, however, features two luminaries of the British academic for right: K. W. Watkins of Sheffield, and Prof. H. S. Ferns of Buckingham. Both are renowned more for their apparent support for Seoul than their specialist knowledge of Korea.

Their account not only praises the allegedly "democratic" Chun Doo Hwan regime, but in its survey of South Korean political history completely omits any reference to the brief periods of democracy between dictators, in 1960/61 and 1979/80. One is used to history being treated this way in Pyongyang, say, with inconvenient episodes simply being deleted from the record. But here in Britain 1984 would seem to have arrived a year early.

It is depressing, then, that the South Korean government has evidently not yet learned to be open and honest enough to label activities which it has manifestly sponsored with the equipment of a government health warning. No less disconcerting is the apparent willingness of a British firm and British academics to go along with this. The acknowledged subvention of supposedly "independent" and neutral activities was a hallmark of Koreagate. We do not want to see the same thing happen here.

Still less should we countenance another old Seoul dirty trick at the Association for Asian Studies conference in San Francisco earlier this year. Two speakers scheduled to give papers on Korea with somewhat critical titles were countered by local South Korean consultants, one, who was Korean, loud it prudent as a result to withdraw his paper.

Of this, so far, there is as yet no evidence in this country. I trust it will remain so and that in future BAKS will not hesitate to feature papers - or even whole conferences - whose title need not be to the liking of Seoul or Pyongyang, for that matter; though that we have accomplished already.

Finally, one of the few things North and South Koreans agree on is a concept called *chungsu*. Difficult to translate (and akin to the better known North Korean *incheon*), it means something like: independence, autonomy, being master in one's own house. Both North and South Korea claim, not without justice, that the quest for *chungsu* has been a major goal in their respective development strategies. Neither of them, however, has shown themselves much inclined in the past to encourage or even tolerate *chungsu* in others. All too often, they are attempted to dominate, in baffle, in bribe, to wheedle, to suborn. For both Korean governments, in respect BAKS' chair would be a most welcome development. But, if they respect it, we have first to practice it.

According to the DES/Welsh Office Handbook of Long Courses for Teachers 1980/81, some 55 tertiary institutions provided taught master's degrees in education. The 55 institutions are comprised of 32 universities, nine polytechnics and 14 colleges or institutes of higher education. Every one of these master's programmes involves a course work and the presentation of a dissertation. Hence, for example, the much discussed credit ("rolling ball") system remains largely untried.

These statistics raise a number of interesting points. First, the universities continue to offer the most, and widest, range of taught master's courses; a situation unlikely to change in the near future. Second, most of the 23 other institutions moved their courses during the 1970s. This response to the changing face of teacher education as much as student need. This represents a significant increase in the number of degrees offered at this level over a comparatively short period of time. Third, the growth in the influence of the CNA is most marked. Explicitly, 15 non-university institutions had their degrees validated by this body. CNA's increasing influence is manifest by the fact that between 1973 and 1979 the number of higher degrees in education which it awarded rose from 809 to 1,013. Fourth, by 1980 and despite the problems of coordination, colleges and institutes of education offered 30 per cent more taught master's courses in education than the polytechnics.

This expansion in master's degrees in education is a recent event which has occurred within a significant period of change and uncertainty and as a preliminary response to a peculiar set of circumstances.

This has had an impact on the character and quality of courses being offered, which may or may not be deleterious to the standards tacitly demanded of higher degrees. The need for master's degree courses in education is being met only partially and there is a need for more effective course design.

Course planners must take their clients' needs into consideration. Primary or secondary teachers require courses which enhance their professional self-concepts and abilities. To achieve this, many more master's courses should be school-focused and enable the recipients to benefit and put into practice what they have learnt. This idea is not new - the Universities Council for the Education of Teachers (UCET) recognized the problem some time ago.

A number of issues have recently emerged which have substantially altered and increased the pool of candidates for master's courses. Since the late 1970s, teaching has become an exclusively graduate profession and non-graduate teachers have been encouraged to do in-service degrees. The existing structure of many advanced diploma and certificate courses is unsuitable and many traditional diploma and certificate courses have been gradually replaced by MEd degree programmes. The teaching profession has contracted following a decline in birthrate. This trend is already beginning to result in an increasingly static and ageing teaching force for whom the normal avenues of promotion have been blocked. This being so, other ways of enhancing feeling of professional competence are sought. Some

of these are sought in the possession of either a very good hon-

## Failings of the exam system

Grading children into winners and failures is misguided and destructive, argues J R Bureau

There is, in practice, a great watershed between those educators who pessimistically believe that an enthusiasm for learning is rarely, perhaps even a suspicious abnormality, and that the majority of students require frequent touches of the whip to ensure forward educational progression; and those who are convinced that the learning process is intrinsically exciting and naturally sought by the majority.

In the same way management philosophies are divided into belief in the big stick and the belief that everyone wants to work well and given half a chance will do so. The big stick view of education, like most such philosophies, provides short-term benefits by concentrating on the needs of the educators at the expense of the educated.

While actual, physical brutality is no longer considered a decent element in the educationalist's tool-kit, much of the remainder of that outwardly respectable tool-kit suffers from similar deficiencies in outlook and a similar poverty in its orientation.

At the heart of the system is the (usually unspoken) axiom that competition is as natural, beneficial and necessary to education as it is to society; if there is no race, there is no incentive.

Few who applaud the current system - in education, as in society - would deny the validity of its jungle-warfare view. On the contrary, the fierce exultation of parents and teachers when their children "win" endorses the belief in winning over losing, of academic "success" over "failure".

Such a philosophy teaches pessimism. All other things being equal - determination, level of involvement, capacity for work, enthusiasm - to label one student as a success because of scores in A levels, and another as, by virtue of A level "failures" is as offensive and irrelevant as calling him or her a failure for being black, or blue-eyed or below average in height.

To praise a lazy and calculating student for reaching a 2:1 when his or her abilities are recognizably those of a first class honours candidate is as stupid as to label someone a "third" when obtaining this level of achievement is the result of total dedication, work and enthusiasm.

If we are going to insist on a grading system for human endeavour, then it at least be related to the individual's potential and not to an arithmetic mean of some distribution curve of human competence.

The existing competitive philosophy runs against the natural current of

the young's curiosity and their interest in unravelling new subject areas. It is not possible to administer examinations, or any other grading system, without recourse to fairly rigid curricula.

The student quickly finds available time heavily determined by pre-set areas of "learning". It is rarely possible for the student to pursue subjects not central to the curriculum, to pursue obscure paths, go down cul-de-sacs, ferret out unusual information, develop a hobby - like enthusiasm for very specialist areas.

While all these activities are arguably at the very core of education, the grading system firmly punishes any serious deviation from the set curriculum by finding it difficult to incorporate such work into the grade given. Well-trodden paths.

As a result the education system is actively training the student to understand that many real educational values are unproductive because they get in the way of examination-requirement educational values.

In addition, the rigidity of the system, brought about by a competitive view of the role of education, is also very bad for the teaching profession, for a number of reasons.

The relationship between any teacher and student is at its best when they consider each other as more or less equal, with only experience and expertise separating their talents. If the teacher is considered by his or her students first and foremost as the arbiter of how they will be measured and rated, the relationship becomes dramatically unequal. If such a situation is bad for education, it is also very corrupting for the teacher.

The quality of teaching is, in the current educational system, largely independent of examination achievement. While the exceptionally good performance levels in examinations of the very best teachers is unlikely to do very badly, because the fixed curriculum, makes it much more difficult for the students to opt out of those

subjects being badly handled.

In a fluid system, where students change subjects and courses as and how they wish (more or less) the bad teacher would very quickly reveal his or her incapacity. In the eighteenth century in Scottish universities, it is said that teachers were paid *per capita* of attendance at their lectures. The American tradition of routine student opinion-of-staff surveys serve the same purpose, if more humbly.

Education viewed as competition has some very destructive effects on the very society it is supposed to enhance. Every field of knowledge - with perhaps a very tiny number of exceptions - in the hands of a lucid and enthusiastic teacher, is capable of stimulating the interest and even the excitement of virtually any of the nation's children.

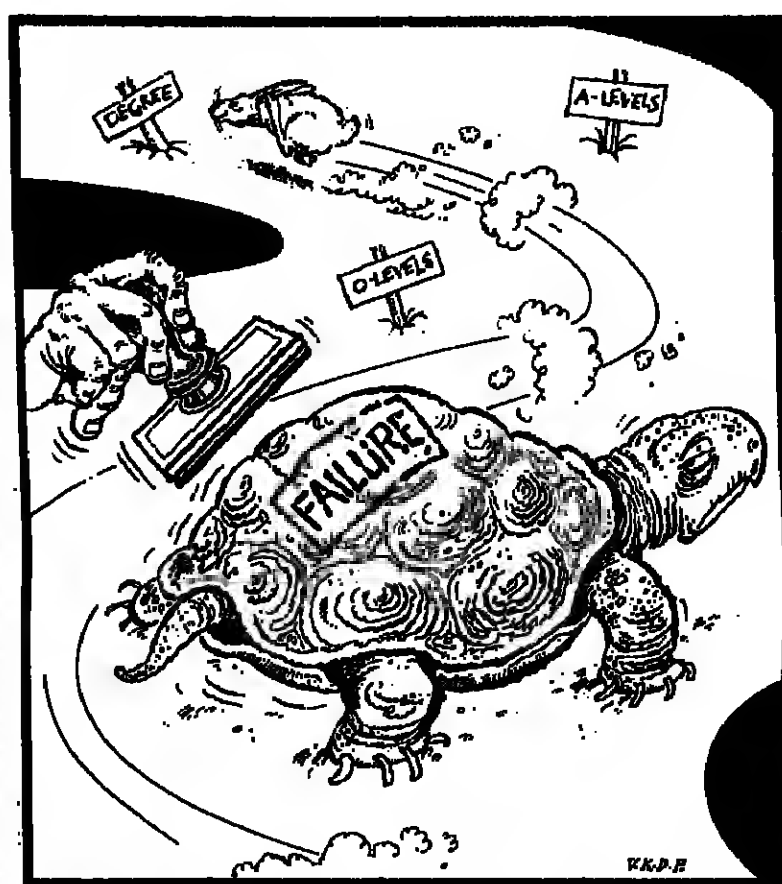
And yet it is the almost universal experience of the taught that the process of education leaves the population only eternally grateful when it's over. While some of the resistance to the learning process must be due to the fact that an inevitable proportion of all subjects are plain hard work, and some of the hostility arises from the poor quality of teaching that is pretty universal, much of the dislike for school generated must be due to the endless rounds of testing and measurement: form tests, term tests, prelims and finals, CSE and O levels - the endless apparatus of the education system to make the child aware of its relative failure in the system.

Thus for a child to find most school subjects boring is "normal"; to hate a number of them is universal. Additionally when a pupil fails to understand a subject under such a testing system it is a matter of shame and anger, where it should be a matter to be simply sorted out until illumination dawns; but teachers under pressure to supply "results" find pushing the quick pupils more rewarding than leading at the slow ones.

The fixation on measurement and categorization has the unfortunate side effect of adding to that considerable pool of problems known as "bringing up the children". Test scores, class positions, passing and failing examinations and the subdivisions of honours degrees play havoc in the minds of parents ambitious for their children.

Society is training its intellectuals to accept the current educational system. There is no conservative like a young conservative. There is no status like quo.

Ultimately it seems tragic that



education in our society should be so persistently a matter of dross and dreary hard work, memory tests and constant measurements of personal inadequacy, when the acquisition of knowledge and wisdom should be the most intensely exciting and rewarding of all human activities.

The cure for such a serious disease is not self-evident at all, but it is as to principle. What has to stop is the competitive principle which insists on perpetual tests and humiliating labels. Examinations and tests will have to disappear. Entry to all and every institution will have to be open to everyone who chooses to enter, and the state will have to ensure it can cope with any increase in those choosing to take part.

Schools and universities may set framework requirements for particular subjects - as for education in general - but it should be the responsibility of teachers to bring the students to those standards, not the responsibility of the student to prove he has reached it. The framework of specifications for any and all subjects may be - and should be - very demanding.

It will no doubt sound idealistic, utopian - perhaps even wildly ecen-

triate. In fact it is the way hobbyists educate themselves in the subject of their own choosing and interest. It is the way all real learning happens: by personal interaction between interested teacher and stimulated student, prodded into finding out for himself without admonishment and ineffectualness of inadequacy.

While ultimately the details for alternatives to present educational systems are crucial, in the first place they are not as relevant as the discussion which must take place as to the diagnosis of the disease. When there is acceptance that competitive examinations and certification are the demonic principles at the core of the education's disease, then society is ripe for radical change.

One useful start in our universities might be to change nothing except to get a fresher on his first day with the university's gift of a (general) degree. The three or four years that follow can then be devoted to education and not to the acquisition of the parchment. Which are not the same things.

The author teaches in the marketing department at Strathclyde University.

The present direction of master's courses in education is not fixed securely enough to a sound rationale for progress and improvement. In teacher education, say Ken Reid and David Hopkins. They argue that although the demand for and provision of master's degree courses in education is burgeoning, little is known about their quality, design or effectiveness.

ours degree or a SSRC or DES grant or both. With the increase in demand there has been a reduction in qualifying standards for teachers wishing to do higher degrees. In the main this is no bad thing; teachers should be encouraged to do advanced work and professional competence is not necessarily reflected in the possession of a first class honours degree. There is, however, a danger that with a booming market (and this applies to both British and overseas students), some institutions may lower their entry standards in order to cater for larger numbers of students. In this situation there is a definite danger that the standard of the degree may become devalued.

This is more likely to happen in university departments of education who have autonomy over their admission regulations than many polytechnics and colleges, whose students are subject to the stringent and rigorous assessment procedures of the CNA, which ironically are set and monitored by university as well as non-university personnel. It is to the credit of many university departments that these temptations are being resisted and standards maintained whenever possible.

There are no ready panaceas or solutions which will overcome existing problems. Indeed, for reasons which have little to do with educational values, things may get worse rather than better as expertise in some institutions falls to be replaced.

Leaving staff to one side, another aspect of the idiosyncratic nature of

courses is disagreement on course content. This problem has many bases and one of them is of critical concern for teacher education. Teacher education is not regarded as a discipline. In the past this has militated against the emergence of teacher education as a field of study in its own right.

The theory practice dichotomy has long been recognized as problematic in teacher education. Nevertheless, the blending of the two is difficult to achieve, despite the fact that the one cannot effectively exist without the other. The utilization of a problem-centred approach, the school focus, appropriate pedagogy, teaching styles and a suitable learning milieu, suggest a practical way of approaching this issue. Encouraging students to theorize about practice and to regard theory as hypothetical and intelligent rather than correct is part of the same approach.

There is a real need for more innovation, experimentation and research into the structure and content of master's degrees in education. Just as some initial teacher education courses have recently been the subject of considerable scrutiny, so it is time that master's degrees received similar attention. Without such work, the real issues will never be fully understood.

The authors are principal lecturer and director of educational research, and lecturer in educational research respectively at West Glamorgan Institute of Higher Education. Their book, *Rethinking Teacher Education*, will be published by Croom Helm next year.

## If I were God

little chance of dropping tooth decay or barbituric acid, what is there left to fantasize about? Well, I like to picture myself being referred to in reverential tones by grey-haired, academically-gowned colleagues as "a President of Cleverness".

The next question is this: Of what? The answer, I am sure, differs from president to president, but here it is some of the visions I'd strive for if my current fantasy turns out to have more chance of success than my earlier ones.

One great compensation for the limited financial rewards of academia is the life-long chance to learn from varieties I've seen, have preceded the most obvious means to this end, sitting in the classes of colleagues. There usually exists an unspoken rule against one colleague becoming a student of another. Professors rarely hear other professor's lectures, thus giving us the opportunity for both learner and

the academic community, myself included. The obvious place to start observing is wherever you happen to be. When I was at high school in Baltimore, a school's biology class was no different from any other. The only difference was that the students were offered a choice of biology or New Mexico. When I was in my undergraduate in Vermont, my biology course taught us nothing special about the plants and flowers of that region. When I was a graduate student in the heart of New York City, no course was offered in urban psychology.

It's not just a matter of the environment affecting the institution; any positive effect of the town or region must be to the benefit of the institution. The institution, in turn, should be designed for students seeking a broad education, not for the specialist-in-training.

There are certain actions which are both right and smart, involving students in university decisions is one of them. I believe that students participate in decision-making has always been ethically correct. In times of falling rolls and falling finances, it's the student body as well as faculty and administrators who should be involved in solving the problems and facing the responsibilities which confront their institution. What's at stake for us is at stake for them as well.

Probably the best-known study in social psychology was conducted by Muzafer Sherif at a boys' summer camp. Sherif found that antagonisms could be built, created and broken down simply by altering the activities in which campers engaged. When the campers were engaged in

When activities demanded cooperative effort to achieve shared goals (for example, when Sherif arranged for a truck to get stuck in the mud, requiring the teams to push together to get unstuck), cooperation and friendship quickly replaced the earlier feelings.

Many colleges and universities today are stuck in the mud. Faculties and presidents file lawsuits against one another, presidents and boards of directors issue angry press statements about one another, and departments claw at one another for an extra crumb of shrinking funds. No one proposal will resolve these problems, but a way can be found to bring some cooperative activity to the campus. I suggest that the university as a whole undertake a project, one that requires the combined skills and strengths of all its members to succeed, the project should be useful, challenging and have a goal that is at least semi-tangible so that it may become a source of mutual pride.

If all this seems a big step down from tugging the universe, something I'm not at all disappointed. Now that I'm 42, I'm not so sure I want all the responsibilities of a real god.

Jules Older

The author is coordinator of the behavioural sciences at Otago Medical School, Dunedin, New Zealand.



## BOOKS

## Poetry that creates experience

by Anthony Thorlby

*The Sacred Threshold: a life of Rainer Maria Rilke*  
by J.F. Hendry  
Carcanet Press, £9.95  
ISBN 0 85635 369 8

Mr Hendry's appropriately portentous title refers to the legendary seat of the Cumae sibyl, and is taken from a schoolboy essay by Rainer Maria Rilke. In what was to become a characteristic tone of highly self-aware pathos, Rilke declares he will

Kiss the sacred threshold and go on,  
a restless, poor wanderer.

The last phrase fits this biographical narrative more aptly even than the first. Mr Hendry recounts Rilke's wanderings and temporary abodes: from the Baltic to Capri, from Russia to Spain; in rented rooms in Paris, in the castle of a princess on the Adriatic, in a small medieval tower high in the Alps purchased for him by a patron.

When young, he imagined for himself aristocratic kinfolk, and all his life he lamented and looked for greater forms of spiritual relationship beyond the confines of his time; he longed to be better connected and rejected the restrictions of the ordinary. In the last decade of the nineteenth century and the first two of the twentieth, he felt more profoundly perhaps than any of his contemporaries, who were all pessimistic in some degree about the decadence of Europe, that a whole epoch of culture and civilization was coming to an end. He even welcomed (briefly) the outbreak of war in 1914 – with a kind of perverse satisfaction at the evident crumbling of a drab and false facade, which would reveal a timeless, elemental reality behind. The experience of decadence was for Rilke at once psychologically intimate and cosmically grandiose. Hence the tone of his poetry, which is remarkable for its blend of seemingly opposite qualities: sublimely prophetic, mysterious and speculative on the one hand, and on the other very immediate in its appeal to familiar objects and emotions.

Rilke was forever kissing "sacred thresholds", at the feet of monks and of the people, in cathedrals and in myths, in front of inanimate things and places and people, all of them intensely though fleetingly touched, because feelingly – captivated. He embraced them with a more than personal passion, suggestive of religious reverence, yet without commitment. Rilke moves on, a wanderer, and his position and presence as typical speaker are hard to pin down. The lines of his poems link the focus of a human subject tellably and recognizably placed between the world and the reader.

This sense of a supraphuman consciousness, not tied to conventional observance, explains much of Rilke's (or what?) appeal and reputation for preternatural, if not mystical, insight; and it has incurred more recently criticism from those who find such social and spiritual evasiveness reprehensible. Instead of such sentimental gestures, towards old thresholds, should they not be ignored, demolished, or built anew? Even Mr Hendry writes somewhat critically of Rilke's compulsive, restless, and inability to commit himself, especially where human relationships were concerned – and there were many in Rilke's life, most of them with women. Like other critics, he is uneasy about Rilke's insistence that lovers must part. "He set up the ultimate obstacle to the kind of mutually sustaining love one might consider worthwhile – involving sexuality and parenthood and some form of domestic life." Mr Hendry quotes passages from letters and poems in which Rilke evokes the need to avoid "possessiveness", and comments: "Such explanations may have been efforts to absolve himself of responsibility for his own failures with women he had loved."

Mr Hendry recognizes, however, that Rilke's "theory of parting" was more than just wilful. It was also a real attempt to school himself to the solitude that had proved the most fruitful condition for creation, a re-



Rilke in uniform. During the First World War he worked as a soldier in the war archives in Vienna.

mark which could do with more thoughtful amplification than it is given here. Poetry must always have been written, after all, pretty much in solitude. For Rilke, however, solitude was not simply a necessary condition in which to write, but the only truly authentic state in which to live; it was not confined to periods of creativity, but permanently permeated his attitudes and perceptions.

The blurb to this book announces that "the life of Rainer Maria Rilke was dominated by one central conflict, which he described in a letter: 'I do not want to suffer art from life; I want them, somehow or somewhere, to be of one meaning.'" Mr Hendry is right to anticipate conflict in the heart of Rilke's ideal, but reflects very little on the reasons for it. The notorious difficulties in Rilke's poetry are a direct expression of it; and his luminous "affirmations" – to which Mr Hendry devotes a rather uncomprehending chapter, summarizing the *Duino Elegies* – are only to be appreciated as rare moments of resolution and reconciliation. These can be breathtakingly beautiful, but also bewildering, pressing beyond the limits of the sayable, and questionable therefore as regards their meaning and validity. In approaching the point where conceivable art and life are one, they beguile the mind with the thought – the now fashionably modern thought – that language is not about the world, but is this, as Rilke does in one of his most celebrated ecstatic utterances, "Some is evidence." (Cf. *How do we know the meaning of utterance that no longer refers to anything other than itself and claims to resemble that which is other into itself, transforming the world into pure verbal inwardness of the Ninth Elegy, where all things are said to become invisible?*)

The desire to reconcile the moral and mundane realities of life with the ideal and contemplative reality of art is not bright to Rilke. For consistency, or more before he experienced it, many writers had felt it with the increasing sharpness which the difficulty and perhaps the impossibility of reconciliation inevitably produced. Rilke often represents the conflict as absolute and perennial; the primary feature of the human condition, and the ultimate challenge to the human spirit, not to respond to it, or to deny it, but to notice it, to be aware of it, to be by it. What had to be confronted, and endured was the terror of "an imminent enmity between (human) and (any) great work" to which he must

concerns and perspectives, even personal identity, fall victim.

Mr Hendry quotes this and similar lines – often departing slightly from the original in his translation, and usually dulling (and occasionally misconstruing) Rilke's meaning in the process – but does not see the implication for biography: that an account of Rilke's life is unlikely to tell us anything positive or even interesting about his work. It might, of course, explain an essential element of negativity in Rilke's experience of the world, which becomes a powerfully positive feature of his poetry. His art thrives upon negation; his "failures" in love (one might equally say, in life) are not a blemish on his genius but its blossom, without which there would have been no fruit. The threshold at Cumae, like all the sacred obligations of the past, acquires a quite new value from the fact of their being abandoned. What youthful presence that Rilke should have known that he would always have to pass on his life, in the dull light of prose, is unimagineable; even his own efforts to attribute personal importance to it, in his own name, in the literal and prosaic context of letters, read like affected exaggeration. How should a biographer hope to do more? Or should he try to do less? Mr Hendry certainly finds few points of connection between Rilke's life and work, or voice that is heard in his poems. The man is not unfairly characterized as a "narcissist", whom Mr Hendry seems not to like very much, but the voice of his poems does not represent his own experience; it is not even his own; they create it. They make us realize that language does something to the world; and that its frontiers are expanded farthest by the language of poetry. Reading Rilke is like an adventure into this new territory, with no possibility of going back to compare or verify the point of departure.

Biography is, then, not the most enlightening way perhaps in which to write about Rilke. Mr Hendry does quote quite a few random lines and passages from his poems, and he summarizes fairly impression of Rilke's claim to be considered one of the greatest German poets. The incomparable interest of his poetry does not lie in its references to his own life, but in its references to the human condition, which is a modern commonplace in danger of sliding into cliché (even in his day). Rilke's remarkable gift for discovery, upon the responsibility of the poet to the world and

be; and there is a sense in which what words refer to is always in itself unutterable. But at the same time, to speak "in a word" of what is unutterable, is to give it utterance; the act of defining what cannot be said, assimilates its unutterability within the greater compass of language.

This paradox in the character of words fascinated Rilke and he exploited it in his poetry, which celebrates language as the key to man's distinctive destiny on earth. Words have for him more than merely communicative or referential significance. In them two different orders of reality meet and unite to form a metaphysical whole. They derive their meaning as much from what they do not correspond to them in existence as from what does. If they are essentially unlike the things and events to which they refer, they nevertheless have the power to make those same things like themselves, to assimilate them into their own linguistic structures and transfigure experience into articulation. The aura of high spiritual authority which surrounds much of Rilke's best poetry derives from his ability to make us feel the encounter of words with material still raw, inchoate, untamed. His rhythms have a magical quality, like incantation, which expresses the connection of words with existence at a level more profound than that of signification. His words cast a spell in excess of their meaning (and when the spell falls, or paraphrase destroys it, his meaning may appear far-fetched and unconvincing). His poems do not represent his own experience; they are not even his own; they create it. They make us realize that language does something to the world; and that its frontiers are expanded farthest by the language of poetry. Reading Rilke is like an adventure into this new territory, with no possibility of going back to compare or verify the point of departure.

Biography is, then, not the most enlightening way perhaps in which to write about Rilke. Mr Hendry does quote quite a few random lines and passages from his poems, and he summarizes fairly impression of Rilke's claim to be considered one of the greatest German poets. The incomparable interest of his poetry does not lie in its references to his own life, but in its references to the human condition, which is a modern commonplace in danger of sliding into cliché (even in his day). Rilke's remarkable gift for discovery, upon the responsibility of the poet to the world and

Anthony Thorlby is professor of comparative literature at the University of

their relationship to both speaker and hearer, upon the space inhabited by the human spirit. He learned to speak as it were, the language of wandering and disorientation, and his syntax is more compelling than his sentiments. The authenticity and authority of his sentences, as they rise to moments of oracular resonance, reside in their structure and figurative texture; these embody the changes in the dimensions and perspectives of experience of which they speak, and thus convince the (native) reader of their own coherence and truth. Mr Hendry says nothing about the strangeness of Rilke's style or its persuasive power, its construction of a new focus and context of perception, its manner of addressing the reader and implicating him in the relationships of the text. He quotes and translates Rilke's celebrated poem "Arete, Torso of Apollo", but ignores its starting conclusion: "You must change your life." Who must, who says so, and why? To remark merely that Rilke "surely" learned from Rodin – who did not excel as a carver – about the quality of "the light intrinsic to the stone, that gives the torso its magical life," is downright misleading, for it directs the reader's attention away from the torso to the poem to the one in the museum.

Biographical curiosity typically

maria poetry appear to be descriptive, whereas in Rilke's case especially – it is symbolic of, indeed constitutes, a new form of experience. The reason for the torso's radical demand for change lies in the displacement of spiritual energy into the truncated body, due to the absence or destruction of any relationship to the whole. Extraordinarily powerful forces – as strong as stellar radiation, as dangerous as impulsive animality, as seductive as sex – invest this body, and by implication all bodies, once they are constituted of a dominating value, a convenient focus, a head. Without this, the mind is deprived of something quintessentially human to hold its place and relate to. In these circumstances, a sense of exposure to elemental and immeasurable forces is so bewilderingly immediate and overpowering that, understandably, a change of life is inescapable. What kind of value judgment is Mr Hendry making, when he calls this poem one of Rilke's "finest"?

It is by way of such textual analysis that the Rilke who matters is more likely to be recognized and appreciated. Not the Rilke who happened to know something about Orpheus, but the quite different, socially unrecognizable but linguistically unrecognizable One who has only to the slightest, where he stands from and to whom, in order to sense how far the listening and the listening it evokes, transcend the limits of any actual human life; that is the secret of their profound appeal. Take, for example, Rilke's lovely famous lyric to the "Meersalbe Nacht", whose melodious harmonies might place it beside Goethe's "A slight similar 'Ueberrollen Giffeln'. A contrast soon becomes apparent. Goethe's voice talks to us as a companion might, promising that we shall rest in nature's calm. Rilke's voice is an one's and it remains wakefully isolated from nature. Finally, it does become absorbed in rapturous enjoyment and praise of the unity of nature – but only in the metaphorical reality of a poem, in which a false freedom is achieved at the cost of a literal absurdity as well as a human desire, as much as the demonic violence of the torso is evoked at the price of its head.

This structural opposition is common in Rilke's poems, where the strength of affirmation is proven against the negative factors that impinge on it. Perhaps no other great poetry is balanced as precariously as his between sublimity and nihilism, with the ever-present risk of falling into nonsense.

This structural opposition is common in Rilke's poems, where the strength of affirmation is proven against the negative factors that impinge on it. Perhaps no other great poetry is balanced as precariously as his between sublimity and nihilism, with the ever-present risk of falling into nonsense.

Anthony Thorlby is professor of comparative literature at the University of

## BOOKS

## Out of bounds

*Understanding Education: towards a reconstruction of educational inquiry*  
by Walter Feinberg  
Cambridge University Press, £18.50  
ISBN 0 521 24864 7

Feinberg's aims are ambitious and his intentions radical, but both the content and structure of his book are problematic. He wishes to redraw the boundaries of educational studies to encompass the entire process of the social reproduction of knowledge, skills and consciousness, claiming that only by so broadening the scope of what counts as education can the educationist cease to provide axiomatic legitimation for the status quo.

His method is to select examples from a variety of fields of educational study – empirical, philosophical, historical – and show inadequacies in their work; and, on the assumption that these are necessary accompaniments of a particular interpretative framework, to suggest that a critique of any such framework should form an integral part of the study. The closing chapters of the book explore the idea of education as social reproduction and characterize knowledge as any representation of reality which "enables individuals to function in and make sense of their social world".

Feinberg's overriding criticism of existing modes of educational inquiry is that they reflect the dominant mode of consciousness which has drawn particular knowledge and the notions of knowledge and education. No doubt such boundaries need constant critical scrutiny and adjustment, but their principled abolition is no solution to the interpretative regress. By including everything within the domain of knowledge and education we may avoid begging any questions, but we also preclude the asking of any that are meaningful.

The major part of this work is presented as a critique, by examples, of existing types of educational inquiry, which claims to be both radical and significant. However, even if we were to accept the IQ controversy as properly representative of empirical research in education, or the analysis of the concepts of education and indoctrination as paradigmatic of philosophical concerns in education, there are no questions raised here which have not been more adequately explored elsewhere. That particular social context influences what empirical questions require explanation or what concepts merit analysis is now a truism, as is the realization that these explanations and analyses will receive endorsement in proportion to their congruence with dominant interests.

Not in this sense of *déjà vu* the reader's only problem. The two chapters on IQ, for example, move from sketches of Arthur Jensen's methodology and findings, to detailed criticisms of specific test items, to polemic about the uses to which intelligence testing has been put. The validity of research is confused with the morality of policy, and the goals and purposes of individuals are conflated with the functions and effects of institutional procedures. Neither description nor critique of the IQ question is sufficiently rigorous to add anything to that particular issue, though both are sufficiently programmed to obscure the connection to Feinberg's general thesis. The chapters on behaviourist pedagogy, content analysis, the history of school reform and the development of medical education exhibit the same characteristics.

This book's purpose is to persuade educationists to step outside the limitations of their interpretative frameworks, but its chief shortcoming is that it fails adequately to contextualize its own. It argues that over-emphasis on education as an individual transaction can only generate reforms about the distribution of life-chances within a given social system, but it fails to see that the very act of education as a social transaction is only true if we share Feinberg's view of education as purely instrumental, and his conviction of

knowledge with belief and custom. No doubt a study of education which attempts to ignore its social setting and function will be powerless to criticize these sources of assumption and constraint. However, a converse approach, which defines education as any process of social reproduction, though it may retain the power of criticism, has foregone all possibility of justification for its critique.

Ruth Jonathan

Ruth Jonathan is lecturer in philosophy of education at the University of Edinburgh.

## The gift of tongues

*Language in Multicultural Classrooms*

by Viv Edwards  
Batsford, £6.95  
ISBN 0 7134 4508 4  
Many Voices: bilingualism, culture and education  
by Jane Miller  
Routledge & Kegan Paul, £10.95 and £5.95  
ISBN 0 7100 9331 4 and 9341 1

The large-scale immigration into the UK in the 1960s and 70s means that there are over a hundred languages in use in the country. Early assumptions that all children would learn English naturally have foundered. So have simplistic assumptions that migrant groups would just "assimilate" to mainstream culture. What is the place of ethnic minority languages in schools? Should they be supported with special teachers, timetabled lessons and O and A level exams? Or should they be left as the responsibility of community schools?

Viv Edwards's book provides a clear, systematic, though rather dry account of the position accepted by most British linguists: the linguistic diversity found in schools does not in itself constitute a problem, but attitudes towards this diversity are of crucial importance, since people's languages are intimately related to their personal, ethnic and cultural identity. The position of immigrant languages cannot be separated from attitudes towards diversity as a whole.

Edwards first discusses four types of linguistic diversity in Britain. There are both indigenous dialects of English (Cockney, Scouse) and also overseas dialects (mainly Caribbean creoles); and there are both indigenous languages other than English (Welsh, Gaelic) and also immigrant languages (Punjabi, Greek). She discusses three of these language types: the Celtic languages get no chapter to themselves, though there are references to Welsh. Second, she provides a useful survey of both the academic literature and of government reports on immigration, race relations and central government and local initiative (or lack of them) on language policies, plus an appendix on information sources. Third, she provides explicit statements of practical pedagogical principles based on the linguistic literature: on helping children to read; on distinguishing between "mistakes" and regional and social dialect features (nonstandard British and Caribbean). This successfully relates the academic principles to what the teacher should actually do with a child whose language work exceeds help.

Finally, Edwards gives a little space to cognitive issues. She discusses the crude but common belief that bilingualism is a disadvantage, because the "brain" is a container of finite size: a language takes up a lot of room, and if a child has two languages in there, there is less room for other things, mathematics, for example. She dismisses the argument by criticizing the faulty design of many bilingualism studies, which compare working-class immigrants from poor areas with middle-class monolinguals.

Jane Miller's study provides some of the personal psychological details missing from Edwards's survey. Almost sixty pages of Miller's book are simply transcribed interviews with a dozen bilingual children and adults. However, although the data are fascinating, her commentary is disappointing, often consisting only



"Study" is one of a series of panels painted by Charles Sprague Pearce for the Library of Congress in Washington DC. Herbert Small's book *The Library of Congress: its architecture and decoration* is published by Norton on October 19 at £5.25.

of paraphrases. In addition, there is no real discussion of the limitations of such self-report data. The interviews make interesting reading and provide local colour. But I am unclear what can be concluded from them.

Miller's survey chapters on language learning, and on the cognitive, social and educational implications of bilingualism, plus a final very impressionistic chapter on authors who write in a second language (Beckett, Conrad, etc.), make many clear points, but are very brief, with long undigested quotes from other authors and few independent conclusions.

Michael Stubbs

Michael Stubbs is lecturer in linguistics at the University of Nottingham.

## Human capital

*Investment in Education and Social Change*

by Tapas Majumdar  
Cambridge University Press, £15.00  
ISBN 0 521 25143 5

Majumdar informs us that his book arose out of an attempt to answer the simple question: what happens to the economics of education when the market for education is described in terms of investment in human capital, rather than in terms of demand and supply of a consumption good or services?

He argues that the human capital framework is too simplistic, and in particular that its analytical tool – rate-of-return analysis – is both inherently unsound and inappropriate to questions of education because investment in education requires a more complex framework for its proper description. The book is devoted to elaborating his thesis and arguing for a "new economics of education" which recognizes the heterogeneity of decision-making in education.

After setting out his criticisms, Majumdar considers in detail three interrelated subjects which he thinks have been inadequately treated by economists of education. The first of these he calls the "domain distinction", that investment in education is of two different types: investment by individuals in buying education and investment by others to supply education. The second is the "macro-micro distinction", that is the contrast between the basis of individual investment decision making and that of institutional or societal decision making. Thirdly, he draws attention to the "collective choice" nature of decision making in education.

To strengthen his case he examines a number of studies and finds them inadequate as a result of not fully taking account of these three subjects. And in his final chapter Majumdar attempts to classify the types of social choice dilemmas that might arise in educational investment decisions. In the end I found this book disappointing. Majumdar, like so many others, has failed to recognize the distinction between human capital theory and the economics of education. This makes the object of his criticisms somewhat confused; he is arguing for a change in human capital

theory, the economics of education, or both? Moreover, there is a related confusion, to some extent stemming from the first: is he claiming that the conceptual basis of human capital theory is unsound (the paradigm is misconceived) or that its empirical basis is suspect (the tools used are inadequate)?

The attack on the economics of education does little more than reiterate arguments that have been going on since 1962. The same applies to his criticisms of rate-of-return analysis which again breaks no new ground. Indeed, it ignores some of the most important current controversies. The chapter on case studies certainly does illustrate the problems of applying economic tools to educational decision making: it does not, unfortunately, show how these problems can be resolved. It is almost a truism that all economists would like to be political economists, but the reason that they shelter behind narrow quantitative analysis is not that they are unaware of its limitations but that they do not know how to escape them. Majumdar offers little help here.

The book is addressed to economists and "readers in the general field of education". While much of the content would appeal to non-economists the language is sometimes technical – "production possibility curves are usually assumed to be continuous over factor space". In his last paragraph Majumdar states: "The task of providing a more constructive general theory remains". Many economists may feel, as I did, that they have been a little short-changed.

John Mace

John Mace is lecturer in the economics of education at the Institute of Education.

## School planning

*Curriculum Studies and Educational Planning*

by Denis Lawton  
Hodder & Stoughton, £3.65  
ISBN 0 340 33281 6

*Countering Educational Design*  
by Ted Nanan  
Croom Helm, £11.95  
ISBN 0 7099 0557 8

The professional purveyors of the still-expanding field of curriculum studies now use language replete with such terms as "design", "model", "system" and "evaluation", concepts more appropriate to the world of industry and computers than to the personal world of the school and the classroom. Yet, unjustifiable as this may be, there is justification for this terminology and analytical scrutiny of the school curriculum, especially in the light of increasingly strident government pronouncements on the purposes of schooling. We need to be as aware of the power structure and processes in the curriculum industry as much as any other form of enterprise. In recent years, however, a growing number of educationalists have begun to question both the rhetoric and the rationale of curriculum studies.

In the two books reviewed here, we appear to have critics from the two

sides. One of them is yet another work from Denis Lawton who has been centrally responsible for building the study of the curriculum into a major educational subject and who will continue to extend his influence as he takes up his new post as director of London University's Institute of Education. The other book is by Ted Nanan, an Australian critic of curriculum concepts and procedures.

Nanan argues that the large army of curriculum experts, advisors, consultants and designers now operating in the three countries he considers (the UK, USA and Australia), rather than providing an aid to teachers, have now developed their own professional ideology and momentum which naturally serves to control and direct teachers in their schools. The educational enterprise has moved away from the teacher in the classroom and into the offices of middle-management professionals. Nanan is especially concerned about the link between educational technologists and curriculum designers, arguing that the former, more than any other group, perceive their function to be scientific and objective. This may be true, but it is unfair to thus typify all curriculum design in the three countries: in the UK there has been strong opposition since the early 1970s to teacher-proof varieties of curriculum design.

The remainder of Nanan's book consists of a strategy to assist classroom teachers to develop their own alternatives and to resist the designer's ideology by use of a "developmental" approach of theory and practice generated from the classroom. This is nothing new and comes over as slightly naive.

Lawton's book, on the other hand, moves easily from educational, political and cultural analysis to practical and grounded discussions of the classroom. Lawton has always been in favour of better planning in schools and of more open discussion about aims and objectives – his chapter on "school-based planning" illustrates this. But the theoretical aspects of his book are also interesting, especially where he defends his support for a common curriculum as a contribution to the just society. He is critical of the "efficiency" models of the curriculum and argues for a more open and humane system of education.

It is here that the books come nearest to agreement, although it is unlikely that Lawton would favour the rather romantic grassroots school-based curriculum employed by Nanan. Lawton is far too aware of the complex social and political pressures on the school curriculum to ever believe that teaching can be left entirely to the individual school and teacher. I wonder if there are any schools now, and if there ever were, where teaching is intuitive, idiosyncratic and based on the ill-defined wisdom and experience of the teacher. There can be little of this in a curriculum designed for an exclusively school-based curriculum development in the secondary school in any meaningful sense – regional and national policies are bound to intervene. Both Nanan and Lawton agree, however, that we must guard against the worst excesses of instructional technology, curriculum design and the systems approach to the curriculum.

Barry Dufour

Barry Dufour is lecturer in education at the University of York.



 Chapman and Hall, 11 New Fetter Lane, London, EC4P 4EE



## A Major New Textbook

### Immunogenetics

Marek B Zaleski, Stanislaw Dubiski,  
Edward G Niles and Roger K Cunningham

In this book, three traditional fields of immunogenetics — immunoglobulins, blood groups and cell surface alloantigens — are discussed. The information is presented from three interrelated points of view: the genetic, the structural and the functional.

The book is self-contained enough to be useful to students without extensive background in related sciences. There is detailed discussion of specific problems, and controversial concepts are presented.

**Topics covered include:**  
Fundamentals of genetics; Basic methods of immunogenetics; Genetics of immunoglobulins; Genetics of blood groups; Major histocompatibility systems; Cell surface alloantigens of nucleated cells.

Published June 1983/Hardback/234 x 191mm/  
564 pages/ISBN 0 273 01925 2/Price £18.75 net

Pitman Books can be obtained from any good bookseller. In case of difficulty however, send your order with remittance to: Cashpost Service, Pitman Publishing Ltd, Southport PR9 9YF. Please remember to quote the ISBN as well as the title.

For further information or a complete list of our titles in Medical and Biological Sciences, contact The Promotion Department, Pitman Publishing Ltd, 128 Long Acre, London WC2E 9AN, Telephone 01-379 7383.

Pitman

## New plant science books

Available now....

### Outline of Plant Classification

Sandra Holmes

This vital new reference book provides the first comprehensive and clear guide to plant classification. Sandra Holmes takes into account all recent developments to describe the interrelationships and variations between the schemes, and to introduce a definitive system. Covers all plants from bacteria and blue-green algae to flowering plants, and uses examples from the temperate, sub-tropical and tropical flora.

Cased 0582 482 42 8 192 pages Price £8.50  
Published 28th September 1983

forthcoming....

### Carbohydrate Metabolism in Plants

CM Duffus and JH Duffus

Knowledge of carbohydrate synthesis and degradation is central to an understanding of a plant's growth and metabolism. In this concise yet comprehensive survey the authors adopt an integrated approach by relating physiological processes to biochemical events. The origins of carbohydrate precursors are described and their utilization in biosynthesis and biodegradation is discussed.

Paper 0582 444 42 2 160 pages Illustrated Probable Price £8.95  
Probable publication February 1984

For a full catalogue of plant science titles published by Longman, please write to: Deborah Burrows, University and Further Education Division, Longman Group Ltd, Longman House, Burnt Mill, Harlow, Essex CM20 2JE, England.

Longman

### The Diversity of Crop Plants

by J. G. Hawkes

The ways in which cultivated plants have evolved and diversified, the importance of hybridity and the methods by which it can be protected to meet the world's growing population, are examined in this vital and important book.

Published 1983, 208 pages, Illustrated, £16.00

### Lizard Ecology

Studies of the Model Organism

Raymond B. Huey, Eric A. Pianka & Thomas W. Schoener, editors

Lizard Ecology, containing the work of 20 distinguished contributors, demonstrates why lizards may well be the ideal model organism in ecology.

August 1983, 688 pages, Illustrated, £28.00

### The Acoustic Sense of Animals

by William C. Stebbins

This introduction to animal acoustics explains not only how animals hear but why they listen. It blends anatomy, physiology, physics of sound, methods of psychophysics, behaviour, natural history and evolution.

September 1983, 192 pages, Illustrated, £13.20

### The Evolution of Insect Mating Systems

by Randy Thornhill & John Alcock

Here is the first comprehensive analysis of insect reproductive behaviour to employ a modern evolutionary perspective. The writing is clear and straightforward and the illustrations a visual delight.

September 1983, 276 pages, Illustrated, £28.00

### HARVARD UNIVERSITY PRESS

126 Ditchingham Palace Road, London SW1W 9BS

## BOOKS

### BIOLOGICAL SCIENCES

## Immune responses

The Experimental Foundations of Modern Immunology (second edition) by William R. Clark  
Wiley £22.90 and £8.95  
ISBN 0 471 86534 6 and 89245 9  
Immunology: the science of self-nonself discrimination  
by Jan Klein  
Wiley £66.50  
ISBN 0 471 05124 1

It seems almost obligatory for any new immunology textbook to contain an introductory sentence explaining how the author has ignored the classical, artificial divisions of immunology, cellular immunology, and so on, and developed a more coherent system. Although these two books are no exception in organizing their material in a novel way, they differ from most of the alternative texts by doing this successfully.

Clark aims to convey an understanding of the fundamental principles of modern immunology by presenting their experimental basis. To this end he rightly omits certain topics (for example, network theory and tumour immunology). Klein has no such model aspirations, and in a much larger text covers the subject comprehensively.

Clark gives a brief informative introduction to the concept of immunology and then describes the structures of the immune system, immunoglobulins, and the relevant cell types and sub-populations. He then looks at how these function in an immune response, including three clinically oriented chapters on immunity to infection, immunological injury (hypersensitivity and autoimmunity), and transplantation. To his credit, he discusses innate or "non-immunological" defence to infection, which, though probably more important to the body than immune responses, are usually ignored by immunologists.

Complex and rapidly developing topics such as immunoglobulin genes and histocompatibility systems are presented in a well-organized and comprehensible manner; and the brief history given should help readers to understand the subject's development and hence to view other literature in perspective. However, although each chosen topic is well covered, an overall unifying description is lacking — a common fault with immunology textbooks. Consequently it is difficult to grasp the basis of how the immune system works. The glossary of immunological terms, however, is undoubtedly a major strength in an introductory text on a subject so bedevilled with jargon.

Klein organizes his treatise into four parts: an introductory definition of the subject, including its history; a structural description of the components from the whole organism inwards; the functional reactions of the components, including their interactions; and finally an integrated view of the complex processes involved in defending the body. This works well if the book is read in latencies from cover to cover. In arguing how important are its science, Klein uses beautiful, as well as helpful, illustrations throughout the text to emphasize his point. Besides being a solid reference text, the book is a work of art and philosophy.

Though comprehensive, the book should be accessible to both novices and experienced immunologists. It is never boring and is enlivened throughout by historical anecdotes and instructive analogies. Klein manages to distil a few paragraphs of relatively solid facts and some incisive comments from many years of experimental confusion. Most chapters have appendices to cover the potential weaknesses in readers' backgrounds. What other immunology textbook includes the composition of the oxygen atom's electron cloud and the principles of amino acid sequencing and gene cloning? The book concludes with a refreshing evaluation of current and future immunological research. As Klein is an established expert, this is often very interesting and, sometimes amusingly, cynical.

Both books have been well organized and are well written, such that they accomplish their own, different, goals. And they are as up-to-date as publication dates allow. Both authors are careful to differentiate between established fact and current dogma, although I prefer Klein's somewhat more sceptical views on some points. Clark's book will be very useful to immunology teachers and possibly undergraduates. Although Klein's book is very expensive, it should become a standard reference and prove an enormous asset to any departmental library involved in immunology teaching.

Jan Klein's comment in his preface about being afraid of his students asking questions outside his speciality will strike a sympathetic chord in most lecturers who teach immunology courses. Both authors say writing their books helped their teaching. Fortunately for the rest of us who are afraid of our students we need no such an arduous — we can gratefully read theirs.

Alan Johnstone

Alan Johnstone is lecturer in immunology at St George's Hospital Medical School, London.

## Ideas about sex

Gametes and Spores: Ideas about sexual reproduction 1750-1914  
by John Farley  
Johns Hopkins University Press, £18.95  
ISBN 0 8018 2738 8

Why should organisms reproduce sexually when many of them — plants in particular — do it better by themselves and demonstrate a breathtaking capacity to go forth and multiply through entirely asexual means? The conventional scientific answer rests on genetics and the necessity for sex to include some kind of sexual conjugation during an individual lifespan in order to vary the relations of chromosomes. Without sex there is no random re-arrangement of genes; without a fluctuating gene pool there is no variation in living beings; without variation there is absolutely no chance of adaptation and hence evolution. However romantic it sounds, twentieth-century geneticists seemingly have the problem all sewn up.

But that is no reason to ignore the fascination that such a topic has exerted. In previous ages, sex as a biological function has intrigued and perplexed scientific thinkers ever since the existence of sperm and egg were first confirmed during the second half of the seventeenth century, and has stimulated a whole series of absorbing researches into the anatomy and physiology of reproduction. It is John Farley's purpose in this interesting study to de-

scribe just about every development in the field from 1750 through to 1914, the year when our ideas about (biological) sex were or less formalized into the form they remain in today.

Farley has realised that a history of ideas about the sexual life of moths and liver flukes is essentially the history of sexual reproduction via male and female gametes in a proper context, and he charts the relative rise of interest in the first sex, and then the other, while knowledge about the complex life cycles of the lower plants and invertebrates was plucked, as it were, from an innocent mother-Nature.

Not an easy read for the amateur, the text is peppered with technical discussions of changing concepts of fertilization, the actual role of sperm, and, most significantly, excellent detailed accounts of the phenomena of life without sex or, more confusingly, life with both methods of reproduction, as exhibited by mosses and ferns. These organisms produce spores in the first instance, that grow into adult plants which like the original, that "second generation" reproduces sexually, via gametes, to create another recognizable moss or fern. Linnaeus called such oddities the Cryptogams — plants that hide their sexual organs.

Farley also makes a valiant attempt to link some of these shifting concepts into a larger history of ideas about human sexuality. In a central chapter, he describes and much illustrates the ancient views of late Victorian times, and, by juxtaposition, suggests that as human sexuality went underground, scientists glorified what they thought to be the infinite possibilities of asexual reproduction in the non-human world. For the Victorians, it seems, procreation was essentially non-sexual, where female eggs were seen in just another product of ordinary cellular activity. On the face of it, this is an appealing argument but perhaps should not be taken too seriously. The time space, moreover, seems a little confused, for not exceedingly high-fewer sentiments were really only characteristic of the 1880s onwards, and Farley's "decline of sex" counter-balanced by an "asexual progression" are located in its middle third of the nineteenth century.

In essence, however, this is a book about animals and plants, not humans, and the lower animals and plants at that. Farley is obviously enchanted by the diversity, complexity and variety of life, by the reproductive production-line of the jellyfish. Modern cytologists may indeed have the answers, as he argues here, but how much more tantalizing are the green and red world of a mossy bank, the intricate delights of invertebrate sex.

Janet Browne

Janet Browne is a member of the Unit of the History of Medicine, Department of Anatomy and Embryology, University College London.

## Useful bacteria

Methylotrophy and Methanogenesis  
by Peter J. Lorge  
Van Nostrand Reinhold, £4.75  
ISBN 0 442 30528 3

Methylotrophy is the way of life of methylotrophic micro-organisms able to grow on compounds such as methane and methanol as their sole source of carbon and energy. Methanogenesis is the "opposite" biological process of methane synthesis catalysed by a completely unrelated group of primitive bacteria called the methanogens. Dr Lorge's small book (88 pages) is a succinct account of the remarkable biological and biochemical diversity within these two groups of organisms.

A valuable introduction to the biology and ecology of microorganisms is followed by a chapter on the physiology of methylotrophy and methanogenesis. Biochemistry of methane-producing bacteria. This latter is the least successful part of the book, as it merely provides a compilation of relevant facts and is hardly the clear review of this complex subject required in an undergraduate text.

Chapters three and four are, by contrast, a considerable achievement, as they cover in a thorough manner the

physiology and biochemistry of the methylotrophic bacteria and yeasts. A final chapter, on biotechnological applications, is a useful and well-written account of the anaerobic digestion by bacterial cultures of waste organic materials to produce methane, the production of single-cell protein (for use as animal feedstuffs) by bacteria growing on methanol, and (methylotrophy) the potential of using methylotrophs to catalyze useful biotransformations from methane and methanol.

As the eighth volume in a series on aspects of microbiology aimed primarily at undergraduates, this book is a success, covering all topics of importance with very few factual errors. Presentation is marred, however, by the cramped diagrams of metabolic pathways and the bewildering clutter produced by inserting comments on relevant equations into the flow of the text and by spraying the text with superfluous Enzyme Commission numbers.

Particularly good features were the summaries at the ends of each chapter and the excellent choice of a succinct limited range of references, all readily available reviews.

Christopher Anthony

Christopher Anthony is reader in biophysics at the University of Southampton.

## BOOKS

### BIOLOGICAL SCIENCES

## Nature's oddities

Hen's Teeth and Horse's Toes: further reflections in natural history  
by Stephen Jay Gould  
Norton, £11.95  
ISBN 0 393 01716 8

Many a human invention is modelled on an observation of nature. But not the wheel. Animals must maintain connections between their parts. Physical rupture of nerves and blood vessels supplying the rim apparently precludes the evolution of wheels. Actually, we could imagine a creature evolve under which wheels might appear but that would mean extrapolating from our world to that of a bacterium. We had better learn to do just that because bacteria have wheels. In fact, at this very moment, wheels are rotating by the millions in your own gut" writes Stephen Jay Gould with reference to the flagella of *Escherichia coli*.

Gould's love for nature's oddities coupled with his ability to turn oddities into beautifully composed parables makes him my favourite science writer. This further collection of absorbing essays is full of accounts both weird and wonderful — of tiny male fish that parasitize their mates, for we all know that males are larger than females; of hen's teeth, for we all know that hens don't have teeth; of the testes of female hyenas; and so forth.

Gould manages to communicate scientific controversies in a way that makes us wonder what the brouhaha (one of his favourite words) is all about. For example, in the practice of taxonomy, the loud and acrimonious debate between pheneticists and cladists, and between cladists and transformed cladists (or "lapsed cladists"), has created a terrible jargon and much confusion. In an essay entitled "What, if anything, is a zebra?", Gould crystallizes most of what is worth saying into a short essay that can be enjoyed and understood at first reading by anyone with a knowledge of O level biology. It is all based on the fact that there are three species of zebra, and the horse may be a more recent common ancestor of one of these than are the other two species of zebra. Zebras may not, therefore, form a monophyletic or unified evolutionary group. In one sense, then, zebras may not exist. Nor may fishes. It's terrible, but we shall have to live with it.

There is, however, a danger associated with this ability to communicate scientific controversy and it is evident in his treatment of so-called levels of evolutionary change. Gould is firmly entrenched on one side of that controversy. As a consequence, the essay is biased. His own crusading spirit has got the better of him. The essay is dominantly about the role of random factors in evolution, but it is used as a vehicle to promote a view that there are three different levels of evolutionary change: gene frequency change, the origin of species, and species selection. That is one perspective, but within at least two of those categories the role of chance is exaggerated.

Frequency-dependent selection, where rare forms are favoured, is probably the most potent selective force maintaining variation in populations. It is ignored in this essay, and the classical force of heterosis (in which offspring of genetically different parents are favoured) is set up as a straw man to contrast with random factors. The essay goes on to assign a far more important role to sympatric speciation (this origin of species without geographical isolation) than the current evidence suggests. Taken together, these factors not only affect but they also emphasize the establishment of categories that are merely convenient points along a continuum. This is because the two factors are claimed to operate in different ways at the different levels of evolutionary change, whereas natural selection has its most potent influence when acting among individuals within populations.

Gould's ability as a scientist or investigative journalist, as well as a

science writer, is also evident. When he thinks something through, he gets to the core of the issue and is likely to go out and do something about it. Two examples come to mind. The first is the role of Teilhard de Chardin in perpetrating the Piltdown hoax. Here, Gould has uncovered the only pieces of evidence in favour of the theory that Teilhard was implicated, and then he lays them before his reader as an advocate for the prosecution. Many of us had suspected Teilhard, but no one had sought the evidence. The critics have replied and they are answered in another essay.

A second example of Gould's active investigations concerns a coiled oyster, *Gryphaea*. The shell of this oyster, the story went, became coiled over evolutionary time so that eventually its tip came round to its base, and it could no longer open its shell. The species, therefore, went extinct "imprisoned in its own embrace". The evidence for this controversial claim, first made in 1922, was based on a single specimen in the British Museum. Gould examined the specimen and was able to prove that the tip of the shell that seemed to press hard on the valve to prevent opening was, in fact, a lump of mud. No one had thought to check the type specimen. Indeed, part of the attraction of Gould's writing is that he makes everything seem so deceptively obvious.

Paul Harvey

Paul Harvey is lecturer in biological sciences at the University of Sussex.

## Uncharted territory

Exploration to Animals and Humans  
edited by John Archer and Lynda Birke  
Van Nostrand Reinhold, £16.95  
ISBN 0 442 30527 3

Exploration remains a neglected topic within the behavioural sciences, certainly in comparison with, for example, hunger, thirst and sex. The editors argue in their introductory chapter, this welcome collection of papers that exploration has had to make do in the past with ill-fitted theories such as drive-reduction theory, inherited from grander branches of psychology, and with ill-suited techniques, such as the placing of rats in totally strange, empty arenas, and that it has suffered as a result. The way forward, they write, "is no longer to pursue the bored laboratory rat down an endless maze".

So that we are left in no doubt that drive-reduction theory is out now-

days as an explanation of why animals explore, at least three authors, P. A. Russell, F. M. Toates and I. R. Inglis, fire heavy salvos at it. Few people, after reading the first four or five chapters will be content to accept the statement that "animals explore objects to reduce their boredom drive" as a satisfying motivational explanation of exploration. Many will be happy to adopt the more "cognitive" approach advocated especially by Toates and Inglis.

According to this approach, which derives from Tolman's work in the 1930s, an animal builds up a representation of a spatial map in its brain. During exploration, an animal assimilates the characteristics of the place it is currently visiting and relates it to information currently coded in the spatial map in its brain. From this basis, it is possible to build up a theoretical model, as Inglis does in a powerful chapter, explaining many of the features of exploratory behaviour.

Inglis in fact turns the traditional attitude to exploration on its head. Rather than seeing exploration as a subsidiary aspect of an animal's behaviour that has to be squeezed into the gaps that occur when an animal stops feeding, drinking or mating, Inglis argues that exploration, the function of which is information-gathering, is the primary behavioural activity in which an animal indulges, and on which other activities, such as feeding, depend for their efficient performance.

Conceptually, our ideas about exploration have clearly advanced in recent years, but sadly, our knowledge of how animals actually explore in their natural habitats, is still very sparse. Not only the editors in their introductory chapter, but also Russell and P. E. Cowan in two other chapters, emphasize how important it is that we should view an animal's exploratory behaviour in its ecological context. Yet there are no more than half a dozen pages in the entire book describing exploratory behaviour of animals in the wild.

This is perhaps unavoidable, as there is virtually no systematic information on the exploratory behaviour of wild animals. On the other hand, there is a wealth of information on foraging behaviour and movement about the home range in wild animals, and this could surely have been drawn upon much more fully to illuminate our understanding of the functions of exploration. Cowan's brief discussion of N. B. Davies's field study on feeding and exploration in pied wagtails shows how much can be gained by relating foraging to exploration in this way.

Nell Chalmers

Nell Chalmers is senior lecturer in biology at the Open University.

## Nitrogen cycle

Nitrogen Metabolism in Plants  
by C. M. Bray  
Longman, £7.95  
ISBN 0 582 44640 6

The subject of nitrogen metabolism in plants is prodigious. It is difficult, therefore, in a small book to convey in a balanced and sufficiently condensed manner an accurate and selectively wide-ranging treatment at a level appropriate to good undergraduate students of various origins. However, Dr Bray has succeeded commendably in meeting these needs in a readable and intellectually stimulating text.

The first and last chapters deal in a fairly general way with processes of nitrogen fixation, nitrate and nitrite reduction, incorporation of ammonia to form glutamate, some bacteria, and the transport and interconversions of plant nitrogen compounds during growth, seed formation and senescence. These two chapters need to be read together before intensive study of the rest of the text.

The remaining five specialized chapters are excellent. The structure, biosynthesis and metabolism of the twenty amino acids are first clearly described and illustrated, and the important regulatory aspects and branched pathways of their conversions are discussed. The chapter on nitrogen distribution then shows how several diverse classes of nitrogenous compounds can be derived from the basic amino acids. Here, although the nicotinic acidity of

zymes, cyanogens, ethylene, many amines, alkaloids, and the tetracyclic structure of the haem and chlorophyll molecules are important examples, the author might also have mentioned the two polyamines, spermidine and spermine, because of their likely role in nucleic acid function and membrane behaviour; the naturally anti-fungal hormones of barley seedlings (which are derived from agmatine) as examples of phenolic amine conjugates; and the importance of phytochrome for metabolism.

The penultimate two chapters provide a valuable link between the nucleic acids and protein synthesis — the processes of DNA replication, base pairing in the double helix, differences between nuclear, chloroplast and mitochondrial DNAs, the composition of chromatin and the structure of the nucleosome being clearly explained. The different types of RNA (messenger, transfer, ribosomal) and their functions, the roles of the different RNA polymerases and the genetic code of base triplets are also described, with good illustrations. Finally, protein synthesis and related processes are considered.

This concise and well illustrated text, with its useful guides to further reading, should be essential for most undergraduates reading plant biology and general biochemistry. It might also appeal to some good sixth-form students.

E. J. Hewitt

E. J. Hewitt is head of the biochemistry group in the plant sciences division of the ARC's Long Ashton Research Station, near Bristol, and reader in plant physiology at the University of

## A Biologist's Basic Mathematics

David R. Causton

Contemporary Biology Series

A sound introduction to the aspects of elementary mathematics which are essential to biology undergraduates, with examples and exercises from different branches of biology included throughout the text.

£6.50 approx paper 224 pages November

## The Diversity of Green Plants

Third Edition

Peter Bell and Christopher Woodcock

Contemporary Biology Series

A well-illustrated evolutionary account of the photosynthetic plants, from the algae to the flowering plants, paying particular attention to those plants prominent in current research.

£9.95 paper 368 pages October

## The Biology of Lichens

Third Edition

Mason E. Hale

Contemporary Biology Series

A review of all aspects of lichenology. This new edition has been rewritten, stressing ultrastructure studies and taking account of the tremendous progress in the study of lichen resynthesis and the physiology of symbiosis.

£8.95 paper 200 pages October

## Plant Surfaces

B. E. Juniper and C. E. Jeffree

This book describes the structure, physiology and biochemistry of the layer that covers the cellular tissues of all plants.

£5.25 paper 104 pages

## Optima for Animals

R. McNeill Alexander

This is an excellent little book on the application of quantitative optimality theory to problems in biomechanics and behavioural ecology... Anyone interested in this topic should own a copy. American Institute of Biological Sciences

£5.50 paper 120 pages

## Hammond's Farm Animals

Fifth Edition

J. Hammond Jr., J. C. Bowman and T. J. Robinson

No other book provides such a treatise on the physiological principles involved in animal production and their practical application.

£9.95 paper 320 pages



Edward Arnold

41 Bedford Square, London WC1B 3DQ



WILEY

## GENES

by B. Lewin, Massachusetts Institute of Technology

This is a comprehensive, up-to-date introduction to the molecular biology of the gene, genes for undergraduates and majors. It presents the entire body of knowledge about the structure and function of both prokaryotic and eukaryotic genes, from the perspective of current research. The book is fully referenced, and extensively illustrated with every major conceptual conclusion the subject of an illustration.

0471 09316 5 732pp April '83 (cloth) £38.25/£27.85  
0471 88782 8 732pp April '83 (WILEY) £18.95/£13.65

## LABORATORY INVESTIGATIONS IN CELL BIOLOGY

by A. A. Bregman, Associate Professor of Biology, State University of New York College at New Paltz

The laboratory investigations in this manual have been developed during more than a decade of teaching undergraduate cell biology. The 18 projects cover a broad range of cell phenomena and include many traditional methodologies and several used in current research. A methodology or technique is introduced and then, in one or more subsequent projects, that area is utilized or further developed.

0471 88241 X 264pp March '83 (paper) £18.35/£12.30

## TEXTBOOK OF BIOCHEMISTRY

With Clinical Correlations

edited by T. M. Devlin, Hahnemann Medical College & Hospital of Philadelphia

A comprehensive text on medical biochemistry with emphasis on the study of metabolism. It provides up-to-date coverage of: molecular biology and recombinant DNA technology; the importance of membrane transport in digestion; protein structure and function; clinical enzymology and protein chemistry; iron and heme metabolism; gas transport; pH regulation; and nutrition.

0471 06038 3 13



## BOOKS

### BIOLOGICAL SCIENCES

## Movement patterns

The Ecology of Animal Movement  
edited by Ian R. Swingland and  
Paul J. Greenwood  
Clarendon Press: Oxford University  
Press, £27.50  
ISBN 0 19 857575 0

The highest single factor to hinder emergence of the study of animal movement as a coherent discipline has always been the confused and often blatantly contradictory terminology by which its students have struggled to describe the movement patterns that they observe. Unfortunately, despite its merits, this book will only hinder unification.

Normally, in a multi-author book such as this, responsibility for ensuring consistency of terminology falls on the shoulders of the editors. In this case, however, terminological anarchy has been positively encouraged. In their preface, the editors describe how they urged the authors to use whatever terms came naturally to them. Their defence is that confusion has been avoided since each contributor makes explicit the context in which the terms are being used. The result of this encouragement to anarchy is that phenomena termed "migration" in one chapter are elsewhere termed "dispersal" or simply "movement" or are even positively excluded by definition from being termed "migration". Doubtless, this policy made life easier for authors and editors, but it places a heavy burden on the non-specialist reader.

This problem of terminology cannot be dismissed lightly for it is much more than a question of mere semantics or simple avoidance of confusion. Muddled and contradictory language actually prevents the emergence of general principles. For example, the book contains a fine review of the progress being made in understanding the role of mating systems in those vertebrate movements that are unfortunately termed natal and breeding "dispersal". In a later chapter, we are given a tortuous review of the possible nature and definition of insect migration. The reader, however, will have to be very alert to realise that, though manifest by different animals, the latter movement pattern is in fact a combination of the two former.

Indeed, in one way, editorial policy positively discourages the reader from making broad leaps of unification. For example, there are good reviews in the book of the current state of studies on optimal foraging, on home range size, and on seasonal migrations by vertebrates. I have no doubt that developments in the fields of optimal foraging and home range dynamics will eventually help us to understand better the seasonal migrations of birds and other vertebrates. I am also convinced that an understanding of the explorations of small mammals provides vital insight into the first-year migrations of the young of seasonally migrant birds. There is a tremendous advantage in a terminology that encourages these movements of different scales to be discussed in the same context. Yet we are told in the preface that few people would approve of using the word "migration" to describe "the seasonal movement of terms from the Arctic to the Antarctic and back, the flight of a bumblebee from one inflorescence to another, and the brief excursion of a male grey squirrel outside its home range in search of a female". Not only therefore, is the reader discouraged from seeing ecological and evolutionary parallels between movements of different scale, but also he is denied a coherent terminology by which to

think about and discuss them. Although the book as a whole fails to encourage unification, almost every chapter, in isolation, emerges as a critical but fair review of the current state of its own particular subject, the only disappointment being a biased and parochial review of insect migration. As a review of various aspects of the ecology of animal movement, therefore, and as a guide to the literature up to about 1980-1981, the book is to be recommended. Anybody hoping to achieve a new perspective, however, is advised to look elsewhere.

Robin Baker

Robin Baker is reader in zoology at the University of Manchester.

## Causal connexions in nature

Statistical Methods in Agriculture and Experimental Biology  
by R. Mead and R. N. Curnow  
Chapman & Hall, £25.00 and £11.95  
ISBN 0 412 24230 3 and 24240 3

Introductory statistical textbooks proliferate. Faced with a new one - even by two such authoritative writers - questions of novelty and usefulness must inevitably be raised. Although this text is indeed rich with valuable and unusual material for biological scientists, it is likely to be most suitable as an adjunct to standard books and courses. It is neither original enough in its presentation of the basic theory, nor satisfactory enough in its departures from that, to be recommended for study on its own.

The book covers in a fairly thorough manner the central ideas of biological statistics, requiring only a knowledge of elementary mathematics. It is liberally illustrated with data from real experiments. It begins with the simplest concepts (means, variances, histograms); and it develops the analysis of variance as the single most useful statistical technique for interpreting data from experiments; it describes in more detail than usual in such books the biologically important topic of estimating proportions; and it elaborates some of the subtleties of multiple linear regression with admirable lucidity. It also introduces the reader to fitting non-linear models, a matter which deserves wide discussion in introductory books now that computers have rendered the computational difficulties unimportant.

Computers, indeed, are bringing about a revolution in statistics. Not only can we now choose statistical models on the grounds of biological appropriateness rather than computational convenience alone; we can also check more fully that the assumptions incorporated in our techniques are satisfied by the data. Computers, in other words, enable statistical analysis to be more realistic, and therefore allow biologists to get closer to the truth about causal connexions in nature. This book's emphasis on the priority of biological considerations is therefore most apposite: the authors argue, for instance, that data should be mathematically transformed - usually only when we have independent biological reasons for believing a transformation to be biologically justifiable - into a simpler form for computation should no longer be a sufficient reason on its own.

However, although the book is undoubtedly strong in parts and is firmly grounded in scientific reality, most of its material has been covered elsewhere at an introductory level, some of it much better. Especially in its later chapters, it tries to do too much, containing potentially misleading (because cursory) sections on design of experiments, sampling, and probability.

Moreover, throughout the book, there is an overemphasis about the purpose of randomization, and therefore about the scientific status of the experiments, which is biologically inappropriate. Do we randomize to increase our belief that our statistical model is correct, or to ensure that the model is actually going on in the world? The former is the most heavily contested area of statistical philosophy; does not



Magellanic penguin from the Falkland Islands. Illustration taken from George Gaylord Simpson's *Penguins: past and present*, here and there, which has been re-issued by Yale University Press in paperback at £5.95.

be included at an introductory level; all the more reason that the issues should be aired clearly.

The book is well worth consulting; but such consultation should be guided by caution and by frequent reference to statisticians.

Lindsay Paterson

Lindsay Paterson is a member of the scientific staff at the ARC Unit of Statistics, University of Edinburgh.

## Latent toxicity

Ecotoxicology: the study of pollutants in ecosystems  
by F. Morlaix  
Academic Press, £19.50  
ISBN 0 12 506760 7

Over sixty thousand manufactured chemicals are now in use throughout the world, and up to a thousand new ones are added to the list each year. Prior to marketing, the toxicity of most of these compounds is thoroughly investigated using a few selected organisms and by applying the well-established criteria of the subject of toxicology.

The information gained from such studies very rarely tells us much about the ecological consequences of introducing chemicals into the environment, and during the past decade or so there has been an increasing awareness of a need to explore beyond the normally accepted boundaries of toxicology. Whether the coining of the word "ecotoxicology" was necessary is debatable, but it does draw attention to the fact that ecologists who try to estimate effects of pollutants encounter very different problems from those of conventional toxicology.

This book provides a very readable account of several important facets of a complex subject, complexities which have become increasingly apparent since the first legislation was introduced requiring tests of chemicals for their ecological effects (the United States Toxic Substances Control Act of 1976).

The problems posed for the research scientist by such legislation, now being introduced by other countries, are enormous, because no one knows how to predict ecological effects of chemicals or, in the highly variable outside world, to monitor their subtle effects. We can, of course, monitor the occasional disasters that involve widespread destruction of one or more living things in a locality. These are not, however, what this book is mainly about. Many ecological effects of pollutants are difficult to measure and are

included in population sizes. Thus, anyone venturing into this subject needs to be conversant with some of the complexities of population dynamics. The author very sensibly recognizes that many of his readers will be unacquainted with the basic essentials not only of population dynamics but also several other biological disciplines, and there are also some good, concise summaries of aspects of ecological genetics and of the nature of communities.

This book deals with subjects which many students are actively concerned about and unlike some texts does not evade the more difficult questions by pointing just to simple relationships between factors that are easily monitored. The author confesses that his own bias is towards research, and the emphasis throughout the eight chapters is upon the conceptual problems that are posed if research on a subject like this is to be of value. He points out that even though we may remain in the position of attempting to make sound judgments from inadequate data, there is a great deal of room for improvement on our present performance.

T. A. Mansfield

T. A. Mansfield is professor of plant physiology at the University of Lancaster.

## RESEARCH IN BRITISH UNIVERSITIES AND COLLEGES

## RBUPC

1983  
YOUR GUIDE TO  
CURRENT RESEARCH IN THE UK

Vol 2 Biological Sciences  
ISBN 0 7123 2010 5 £70 pages  
— c. 20,000 project entries  
— 26 subject groups including  
Biology, Medicine and Zoology  
— comprehensive name and keyword  
indexes.

Further details available from:  
Publications Section (1983)  
British Library Lending Unit  
Boston Spa, Welby  
West Yorkshire, LS2 7ED

## NOTICE BOARD

### Grants Universities

BRUNEL: Dr R. Dean, £11,455 from Age Research (protein degradation in human cells); Dr R. Dean, £2,300 from Nuffield Foundation (degradation of microinjected protein); Professor B. R. Jennings, £81,327 from BP Research Centre (electrostatic coalescence of colloid dispersions); Dr J. A. Addie, £54,617 from Leverhulme Trust (machine-independent specifications for computers); Dr P. Mehta and Mr T. Thomson, £48,199 from SERC (ultrasonic current and reactive control in rectifier equipment); Professor I. Akkender, £6,200 from Royal National Institute for the Blind (reading machine); Professor R. Wild, Dr G. Mullineux and Dr A. J. Medland, £170,965 from SERC/Metal Box Ltd (teaching computer program); Professor A. J. Reynolds, Dr R. H. M. Wakelin and Dr C. Clark, £45,073 from SERC (ventilation generated by fluctuating pressure differential); Mr A. L. Yettum, £142,573 from Transport and Road Research Laboratory (accident studies and component testing); Dr M. J. Bennett and Professor A. J. Reynolds, £26,633 from DHSS (pulmonary response to cold); Professor A. J. Reynolds, Mrs D. J. Shave and Dr A. J. Ward-Smith, £41,603 from SERC (wide-angle screen diffraction); Professor W. O. Pice, £5,300 from Bishop Price and Partners Ltd (ship dynamics); Professor J. R. Whiteman and Mr A. L. Yettum, £4,000 from SERC (structure study of software gas pipes); Professor H. Wolff, £36,250 from British Heart Foundation (computer assisted exercise testing and feedback); Professor H. Wolff, £10,000 from Knoll (research fellowship); Professor H. Wolff, £2,000 from D. Electronics Technology Ltd (alarm system research); Dr T. S. Eyre, £49,330 from SERC (ultrasound formulation on camshaft and tappet wear); Dr T. S. Eyre, £3,000 from LucasCAV (evaluation of applications); Professor M. J. Bevis and Dr J. A. Bowma, £91,510 from SERC

Polyline Ltd (teaching company program); Dr J. A. Bowman, £15,250 from SERC (pipe grade polyethylene); Professor M. J. Bevis, £4,430 from SERC (high performance thermoplastic composites); Dr K. A. Hodd, £1,700 from MOD (influence of cross-link density); Mr M. Buxton, £2,200 from DHSS (early detection of breast cancer); Professor M. Kogan and Mrs D. Johnson, £52,450 from Leverhulme Trust (coexistence of public and private education sectors); Mrs M. Hyman, £4,005 from Joseph Rowntree Memorial Trust (social care for the elderly); Dr J. T. Richardson and Dr L. Murray, £3,350 from SERC (intelligence knowledge based systems); Mr S. Cang, £14,000 from N. R. Thames Regional Health Authority (relationships of clinicians and medical records staff); Industrial Liaison Group, £14,000 from Manpower Services Commission (research into sandwich education - RISSE).

UMIST: Dr M. D. Houslay, £49,107 from Medical Research Council (regulation of adenylate cyclase by its membrane environment); Dr J. G. Oliver and Dr R. W. Davies, £140,000 from SERC (DNA sequence analysis of molecules of chromosomes III of *Saccharomyces cerevisiae*); Professor P. Barry, £25,394 from United Kingdom Atomic Energy Authority (field trials of condensation boilers); Professor B. Linwood and Dr R. R. S. Smith, £21,200 from SERC (interactive software for integrated process and energy systems); Professor R. Ramage, £19,950 from SERC (synthesis of oleandomycin); Dr J. C. Vickerman and Dr J. A. van der Berg, £26,950 from SERC (promoters and supports in metallic catalyst selectivity and activity); Dr R. P. M. Procter, £24,063 from SERC (environmental cracking corrosion fatigue and hydrocarbon embrittlement of marine structural steels); Dr A. A. Smith and Dr R. A. King, £22,359 from SERC (hydrogen permeation measurements and monitoring of marine structures); Dr R. A. Collin, £24,453 from SERC (corrosion fatigue of wire rope for lifting applications); Dr V. Ashworth and Dr R. P. M. Procter, £37,800 from SERC

(micro-louping on calcareous deposit formation on steel structures subject to cathodic protection); Dr R. P. M. Procter and Dr W. A. Grant, £10,850 from SERC (use of ion implantation to improve wear resistance of titanium and titanium alloys); Dr G. F. Goll, £19,558 from SERC (pyrite: occupancy observations and development of adaptive HF communications systems); Dr A. Branneller and Dr A. E. Ehyimide, £24,000 from Vard Ltd (175-84 software package); Dr A. Branneller and Dr A. E. Ehyimide, £22,000 from Vard Ltd (power systems analysis and simulation); Professor E. T. Fowner and Dr M. O. Hartley, £195,416 from SERC (digital systems laboratories); Dr R. Peaker, £54,700 from SERC (process induced defects in silicon devices); Mr J. G. Perry and Mr P. A. Thompson, £19,614 from SERC (techno-economic modelling of complex maritime projects); Professor F. M. Burdick, £14,800 from SERC (retrofit modelling of offshore piles); Professor F. M. Burdick, £40,007 from Department of Energy (design and propagation in tubular joints by fracture mechanics); Professor F. M. Burdick, £3,064 from SERC (behaviour of defects in stress concentration regions); Mrs J. W. Hughes and Mr M. S. Powell, £39,525 from SERC (cross-development system for distributed computing systems); Professor M. O. Singh and Professor N. Munro, £17,958 from SERC (hierarchical techniques for simulation of large scale systems with application to nuclear safety); Dr P. Wellstead, £25,000 from Lucas Group Services (self-adaptive engine management of automotive petrol engine); Dr R. Thompson, £47,822 from Central Electricity Generating Board (atmospheric corrosion of overhead high voltage transmission lines); Dr R. P. M. Procter, £39,724 from Department of Energy (cathodic protection and environmental cracking at high strength floor plate in seawater).

PAISLEY COLLEGE OF TECHNOLOGY: Dr Frank Pielichowski, £10,000 from SERC (thermoluminescence and search for Scottish virified billions).

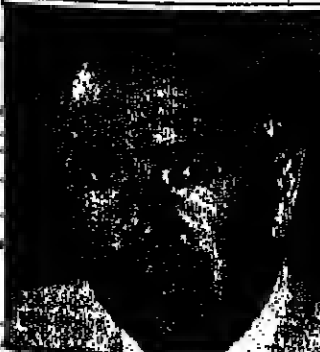
### Appointments

Dr Will Bridge has been appointed as national coordinator for the new completed team of nine regional agents which promotes the Government's initiative on professional, industrial and commercial updating (PICKUP).

Essex University has appointed the following lecturers: Mr D. Arnold (language and linguistics); Dr F. M. Schiavone (economics); Mr M. A. Alexander (computer science); Mr J. F. Bate (electrical engineering science - British Telecom post).

The new principal of Brunton College for Further Education will be Mrs Ulla Barlow, present vice-principal of Perchard Whitley College, Halifax. Mrs Barlow was formerly head of the department of social and community studies at Southwark College.

Professor Richard Norman, the new chief scientist at the Ministry of Defence and Professor Derek Colley, of Birmingham University, have been appointed to the Science and Engineering Research Council. They succeed Dr Anthony Chubb, of the Department of Energy, and Professor Ian Butterworth, of Imperial College, London.



The Royal Philharmonic Orchestra's Yearbook has just been published, giving details of the 1983/84 season together with special articles on the orchestra's history and its repertoire. The Yearbook is available for £1.95 (35p) from the Poetry Society, 100 Fleet Street, London EC4A 3DF.

### Publications

Newspapers and journals these days can come to resemble an alphabet soup. Acronyms and initials: SWAPO, ZANU, ONP, IMF, ETA, CPUSA, M-L, Harriet's Letter's Dictionary of Initials (Elliot's High Wycombe Press, November 11). For details, see the perils of the foreign and business pages and gives a strong impression of the extent to which our lives have come to be dominated by initials.

The latest edition of *Poetry Review*, the quarterly journal of the Poetry Society, has been published under its new editors Mick Smith and Tracy Warr. The September issue includes James Fenton's *Mythology against Mythology*, Andrew Motion's verse memoir "Singing" and poems by Booker Prize candidate John Fowles. It is available for £1.95 (35p) from the Poetry Society, 100 Fleet Street, London EC4A 3DF.

The Royal Philharmonic Orchestra's Yearbook has just been published, giving details of the 1983/84 season together with special articles on the orchestra's history and its repertoire. The Yearbook is available for £1.95 (35p) from the Poetry Society, 100 Fleet Street, London EC4A 3DF.



The University of Keele's Earle lecture will be given on November 2 by Margaret Goffing on the subject of "Stiffness and plasticity". Admission is free and the lecture will be held in the University of Keele's Lecture Theatre 1 at 8.15 pm sharp.

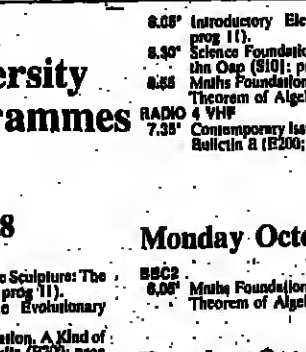
### Events

The National Association of Teachers in Further and Higher Education, languages section has organized a one-day course entitled "New directions for languages courses" to be held at Mander Hall, Macclesfield, on November 22-23. For details, see the perils of the foreign and business pages and gives a strong impression of the extent to which our lives have come to be dominated by initials.

The third Shell International Lecture, cancelled because of the general election, has been rescheduled for November 2 at the University of St Andrews. Lord Richardson, former governor of the Bank of England, will discuss "The provision of pensions".

A workshop on "Managerial employment" in the EEC will be held at Buckinghamshire College, Newland Park, Chalfont St Giles, Bucks, on Friday October 21. Further details from Peter O'Hanlon on 0467-4441 x39.

The University of Keele's Earle lecture will be given on November 2 by Margaret Goffing on the subject of "Stiffness and plasticity". Admission is free and the lecture will be held in the University of Keele's Lecture Theatre 1 at 8.15 pm sharp.



8.00\* Introductory Electronics. Revision (T283; prog 11).  
8.30 Science Foundation Course. Energy: Cloaking the Gap (S10); prog 32.  
8.45 Studies in Foundation Course. The Fundamental Theorem of Algebra (M10); prog 30.  
RADIO 2 VHF  
7.35 Contemporary Issues in Education, Education Bulletin 8 (E200); prog 23.

### Saturday October 8

8.00 Art in Italy, 1400-1500. Public Sculpture: The Piazza del Signoria (A352; prog 11).  
12.15 The History of Mathematics. An Evolutionary Approach (M10); prog 30.  
12.40 Contemporary Issues in Education. A Kind of Necessity: Education for Adults (E200); prog 23.

12.55 Arts Foundation Course. Science Fiction - Towards the Twentieth Century (A10); prog 23.  
13.00 Computing and Computers. Computers: Social Implications (M25); prog 10.  
13.15 The 19th Century Novel & its Legacy. The Novel and Film (A12); prog 10.

RADIO 3 VHF  
7.15 Arts Foundation Course. Life in a Railway Station (S10); prog 10.  
7.35 Science Foundation Course. The Climate (S10); prog 10.  
8.40 Industrial Relations. Women in Trade Unions (T283); prog 9.  
8.40 Arts in Italy, 1400-1500. Preparing for Entry (A352; prog 11).

### Sunday October 9

8.00 Choral and Menial Processions: MARS: The



## Potted history

The first retrospective exhibition of the leading potter, Hans Coper (1920-1981) will be presented at the Salisbury Centre for Visual Arts, at the University of East Anglia until December 11.

Substantially self-taught, Coper began as a potter in Lucio Rie's London workshop where, from 1947 to 1958 he helped her make the distinctive black and white tableware that was the pottery's staple.

At the same time he developed his own vocabulary of simple yet powerful forms and perfected his firing method. As with Lucio Rie's pots, Hans Coper's are also fired once, a technique which gives the most intimate fusion of the clay body with the carefully applied layers of pale slip and dark oxide to produce extraordinary, delicately delicate effects and depth of surface.

### Chairs

Three members of the University of Reading academic staff have been promoted to professorial status. Dr Alan Wardman, author of *Religion and Society among the Romans* and books on Ptolemy and Graeco-Roman influence, becomes professor of classics.

Mr Tony Oates becomes professor of farm management; his *The Farmer as Manager* was published in 1980. Dr Peter Trudgill, an internationally known authority on sociolinguistics and dialect, becomes professor of linguistics.

The University of Newcastle upon Tyne has confirmed the title of Professor Emeritus on Professor Sir James Baddley upon his retirement from the chair of organic chemistry at Newcastle. Sir James now lives in Cambridge, where he is a fellow of Pembroke College and continues his research on bacterial cell walls.

Dr John Green, acting head of the department of linguistics at the University of York, has joined the University of Bradford as professor of modern languages.

David Holcroft, reader in philosophy at the University of Warwick, has been appointed professor of philosophy at the University of Leeds.

Dr Gillian Brown, reader in the department of linguistics at the University of Edinburgh, has been appointed to the chair of language and linguistics at the University of Essex. Essex has also announced the appointment of Dr Howard Newby as director of the Social Sciences Research Council data archive and as professor of sociology.

Professor Christopher Arnold, current professor of law at the University of Windsor, Ontario, Canada, has been appointed to the chair of law and headship of the school of law at Loughborough Polytechnic.

### Courses

The University of Southampton is to enrol its first part-time undergraduates next month.

The students will be studying in a new faculty of science programme; among the subjects offered are biochemistry, biology, botany, chemistry, environmental sciences, geography, geology, geophysics, sciences, physics, psychology and zoology. Applications are now being considered for research and teaching to be held in November and December. For full details and application forms, contact the department at Mripin Street, Sheffield S1 3JD.

The University of Sheffield department of mechanical engineering is offering one and two-week courses in practical spectral analysis and instrumentation for engineering research and testing to be held in November and December. For full details and application forms, contact the department at Mripin Street, Sheffield S1 3JD.

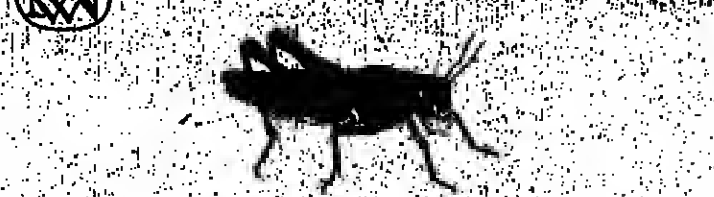
## THE NUFFIELD FOUNDATION

## Social Science Research Fellowships

These Fellowships are to enable social scientists on the staff of universities and polytechnics in the United Kingdom to pursue their research interests on a full-time basis, free from teaching and administrative commitments. The awards will be for a minimum of one term and a maximum of a year. The Foundation will meet the research expenses of successful candidates, together with the cost to their institution of replacement teaching during their leave of absence. The institutions are expected to pay the Fellows' salaries during the period of Fellowship and to administer the payments made by the Foundation.

Application forms and further information from: The Director, Nuffield Foundation, Nuffield Lodge, Regent's Park, London NW1 4RS. Closing date: 31 December 1983.

W. W. Norton & Company Ltd.  
37 Great Russell Street, London WC1B 3NU



## ELEMENTS OF BIOLOGICAL SCIENCE

3rd Edition  
International Student Edition

William Keeton and Carol Hardy-McFadden  
The new edition of this comprehensive biology and botany textbook has been completely revised. Full account has been taken of the latest research and of the material prepared for the third edition of the major work *Biological Science*.

A Study Guide and Teacher's Manual are also available to accompany *Elements of Biological Science*.  
ELEMENTS OF BIOLOGICAL SCIENCE 0 393 95342 4 790 pp paper £10.95  
Study Guide 0 393 95259 2 paper £5.95  
Teacher's Manual 0 393 95262 2 paper £2.95







## Universities continued

**University of London**  
The London School of Economics and Political Science  
And Imperial College of Science and Technology

**RESEARCH OFFICERSHIP IN THE HISTORY UNIT**  
Applications are invited for research officership in the History Unit of the London School of Economics and Political Science. The unit is engaged in a major research project on the history of the British Empire. It is intended to make a three year appointment in any field of the unit's research.

Appointments will be on the basis of a research officer's salary of £10,000 per annum plus £1,000 for research expenses. The salary is negotiable. The unit is engaged in a major research project on the history of the British Empire. It is intended to make a three year appointment in any field of the unit's research.

It is intended that the research officer will be involved in the unit's research project on the history of the British Empire. The unit is engaged in a major research project on the history of the British Empire. It is intended to make a three year appointment in any field of the unit's research.

## Miscellaneous

**Harlow Theatre Trust Ltd**  
DIRECTOR

Harlow Theatre Trust Ltd is a charitable company which operates the Harlow Theatre. The company is seeking a Director to be responsible for the overall management of the company. The Director will be responsible for the overall management of the company. The Director will be responsible for the overall management of the company.

He or she will probably be a training officer, with experience in the theatre. The salary for this post is £10,000 per annum plus £1,000 for research expenses. The salary is negotiable. The unit is engaged in a major research project on the history of the British Empire. It is intended to make a three year appointment in any field of the unit's research.

## Polytechnics

**Hong Kong Polytechnic**  
Department of Building & Surveying  
**Principal Lecturer in Quantity Surveying**

Applications are invited for the above post which is desirable immediately. The Hong Kong Polytechnic is a large institution of advanced education which offers courses in a wide range of subjects. In addition to four major academic Divisions comprising 18 teaching departments, it also has a number of interdisciplinary institutes and centres. For the academic year 1983-84, emphasis will be placed on developing high level programmes and applied research activities relevant to the needs of Hong Kong. A number of vocational-oriented degree programmes will be introduced in this year.

## Fellowships

**University of Manchester**  
**SENIOR FELLOWSHIPS**

Applications are invited for Senior Research Fellowships in the Department of Economics. The department is engaged in a major research project on the history of the British Empire. It is intended to make a three year appointment in any field of the unit's research.

These Fellowships are not awarded for research only. They are awarded for research and teaching. The Fellowships are awarded for research and teaching. The Fellowships are awarded for research and teaching.

**University of London**  
**AUSTRALIAN STUDIES CENTRE**

Applications are invited for research officership in the Australian Studies Centre. The centre is engaged in a major research project on the history of the British Empire. It is intended to make a three year appointment in any field of the unit's research.

**AUSTRALIAN STUDIES FELLOWSHIPS**

The Fellowships are available to Australian citizens or those who have spent a significant part of their education in Australia. The Fellowships are awarded for research and teaching. The Fellowships are awarded for research and teaching.

Application forms are available from the Head, Australian Studies Centre, Institute of Continuing Education, University of London, 100 Brookman Street, London WC1E 7HX. Tel: 01-278 3500.

**Personal**

**IMMEDIATE ADVANCE £100**  
on request. Applications should be sent to: Mr. J. H. Smith, 100 Brookman Street, London WC1E 7HX. Tel: 01-278 3500.

**POLYTECHNIC OF THE SOUTH BANK**  
Borough Road, London SE1 0AA  
**SCHOOL OF BUSINESS POLICY AND MARKETING**

**LECTURER, GRADE II IN COMMUNICATIONS**  
(0.6 fractional appointment) (Ref. BS13)

A lecturer is required to fill a newly-created post as Communications Tutor to the BECHND and BECHNC in Business Studies. A knowledge of communications in relation to BECH Higher National requirements is essential. The post is initially a fractional appointment of 0.6 of a full-time post.

Salary will be in the range: Lecturer Grade II: £4,328 (x10) - £8,940 per annum, plus £880 London Allowance. Application forms are available from the Staffing Office, Tel: 01-292 8896, Ext. 2355. Closing date for receipt of completed application forms will be 21st October 1983.

**DUNDEE COLLEGE OF TECHNOLOGY**  
**LECTURESHIP IN ECONOMICS**

The person appointed will be required to teach on a range of first degree and other courses. Applicants should be honours graduates, and preferably have a higher degree. Teaching experience and an active interest in research would be advantageous.

Salary Scale: £8,313-£12,228 (bar) - £13,125, with initial placing depending upon approved previous experience. Financial assistance towards the cost of removal expenses may be available.

Further particulars and application forms may be obtained from the Personnel Officer, Dundee College of Technology, 8ell Street, Dundee DD1 1HC, with whom applications should be lodged by 21 October 1983.

**Sunderland Polytechnic**  
Faculty of Science  
**LI/SL IN RECOMBINANT DNA TECHNOLOGY**

A vacancy exists for a suitably qualified person to develop and teach a new degree course in Recombinant DNA Technology. The person appointed will be required to teach on a range of first degree and other courses. Applicants should be honours graduates, and preferably have a higher degree. Teaching experience and an active interest in research would be advantageous.

Salary Scale: £8,313-£12,228 (bar) - £13,125, with initial placing depending upon approved previous experience. Financial assistance towards the cost of removal expenses may be available. Further particulars and application forms may be obtained from the Personnel Officer, Sunderland Polytechnic, 100 Brookman Street, London WC1E 7HX. Tel: 01-278 3500.

**Brighton Polytechnic**  
**PROJECT DEVELOPMENT OFFICER**  
(Research £7,395-£8,908)

Required by Brighton Polytechnic for two-year postgraduate research project in the field of Project Development. The person appointed will be required to teach on a range of first degree and other courses. Applicants should be honours graduates, and preferably have a higher degree. Teaching experience and an active interest in research would be advantageous.

Further details and application forms may be obtained from the Personnel Officer, Brighton Polytechnic, 100 Brookman Street, London WC1E 7HX. Tel: 01-278 3500.

**La Sainte Union College of Higher Education**  
The Avenue  
Southampton SO9 6HB  
Tel: (0703) 28761

The following appointments are offered from January 1984:

**LECTURER II**  
To contribute to the 3rd Year and 4th Year Service Courses.

The successful candidate will have good academic qualifications, be a qualified teacher and have a keen interest in Mathematics Education.

Further details, including application forms, should be sent to: Mr. J. H. Smith, 100 Brookman Street, London WC1E 7HX. Tel: 01-278 3500.

**La Sainte Union College of Higher Education**  
The Avenue  
Southampton SO9 6HB  
Tel: (0703) 28761

The following appointments are offered from January 1984:

**LECTURER II**  
To contribute to the 3rd Year and 4th Year Service Courses.

**King Alfred's College**  
**WINCHESTER**

**PRINCIPAL**

The Governors invite applications for the post of Principal to succeed Mr. Martin Rose who is retiring at the end of the Summer Term 1984. The College is a Group 7 College of Higher Education and the salary range is £21,903 to £22,905.

The appointment is residential. The person appointed will be a committed Christian and a communicant member of the Church of England or of a Church in communion with it.

The closing date for applications will be the 4th November, 1983. Further details may be obtained from the Clerk to the Governors, King Alfred's College, Winchester SO2 4NR. Tel: Winchester 62281.

**DORSET INSTITUTE OF HIGHER EDUCATION**  
**SENIOR LECTURER IN MANAGEMENT**  
Salary Range: £10,883-£13,443

Applications are invited for the post of senior lecturer in the Department of Management. Preferred subject areas are Marketing/Business Policy though appointments in the field of developing inter-personal skills for managers will be considered.

The successful applicant will be closely involved with the DMS course and its development.

Applicants should hold an appropriate degree and have relevant industrial experience. Higher qualifications would be an advantage.

Closing date: Thursday, 20th October 1983. Write, enclosing SAE, for further information to the Director's Secretary, Dorset Institute of Higher Education, Wallisdown Road, Poole BH12 8BB. Tel: (0202) 524111, Ext. 240.

**Bulmershe College of Higher Education**  
Required for January 1984:

**LECTURER II/SENIOR LECTURER IN DRAMA**

To teach on Major and Minor courses in Film and Drama and the BA Honours (Combined Studies) programme. Applicants should have a degree in Drama or a related subject and have relevant experience in teaching Drama. The person appointed will be required to teach on a range of first degree and other courses. Applicants should be honours graduates, and preferably have a higher degree. Teaching experience and an active interest in research would be advantageous.

Further details and application forms may be obtained from the Deputy Principal, Bulmershe College of Higher Education, Woodlands Avenue, Emsay, Reading RG6 1HT. Tel: Reading (0734) 683367. Completed forms to be returned by 19th October 1983. Bulmershe County Council is an equal opportunity employer.

**Southampton College of Higher Education**  
Hampshire  
**PRINCIPAL LECTURER IN INSTRUMENTATION AND CONTROL**

Applications are invited for the post of Principal Lecturer in Instrumentation and Control. The person appointed will be required to teach on a range of first degree and other courses. Applicants should be honours graduates, and preferably have a higher degree. Teaching experience and an active interest in research would be advantageous.

Further details and application forms may be obtained from the Deputy Principal, Southampton College of Higher Education, 100 Brookman Street, London WC1E 7HX. Tel: 01-278 3500.

**La Sainte Union College of Higher Education**  
The Avenue  
Southampton SO9 6HB  
Tel: (0703) 28761

The following appointments are offered from January 1984:

**LECTURER II**  
To contribute to the 3rd Year and 4th Year Service Courses.

The successful candidate will have good academic qualifications, be a qualified teacher and have a keen interest in Mathematics Education.

Further details, including application forms, should be sent to: Mr. J. H. Smith, 100 Brookman Street, London WC1E 7HX. Tel: 01-278 3500.

**La Sainte Union College of Higher Education**  
The Avenue  
Southampton SO9 6HB  
Tel: (0703) 28761

The following appointments are offered from January 1984:

**LECTURER II**  
To contribute to the 3rd Year and 4th Year Service Courses.

## Research & Studentships cont

**Southampton University**  
Department of Aeronautics and Astronautics

**Research Assistant**  
Computational Methods in Boundary Layers

Applications are invited for the post of Research Assistant to work on computational methods for three-dimensional boundary layers. The work is supported under a grant from the Royal Aircraft Establishment. A good working knowledge of large-scale computational methods is desirable. Part of the duties will be to assist Professor G. M. Lay in running the 1985 Southampton Meeting on Complex Turbulent Flows. Candidates will be encouraged to work for a high degree.

The appointments are for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

**University of Oxford**  
Mathematical Institute  
**POSTDOCTORAL RESEARCH ASSISTANTS**

Applications are invited for two postdoctoral research assistants to work on a project in the field of mathematical physics. The project is supported under a grant from the Royal Society. A good working knowledge of mathematical physics is desirable. Part of the duties will be to assist Professor G. M. Lay in running the 1985 Southampton Meeting on Complex Turbulent Flows. Candidates will be encouraged to work for a high degree.

The appointments are for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

Applicants should have a good honours degree. The appointment is for three years duration. The salary is in the range £5,510 to £5,530. The starting date should be not later than 1st November 1983.

**Inner London Education Authority**  
Louden College of Furniture

**HEAD OF DEPARTMENT OF MUSICAL INSTRUMENT TECHNOLOGY**  
(Burnham Grade IV)

Due to the promotion of the present holder to the post of Head of Department of Musical Instrument Technology, the post of Head of Department of Musical Instrument Technology is vacant. The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

The person appointed will be responsible for the overall management of the department. The person appointed will be responsible for the overall management of the department.

## Administration

**ASSISTANT, PRONUNCIATION UNIT**

The four staff in the Unit are responsible for providing an advisory service for news readers and other programme staff in the English Language Service throughout the BBC on the correct pronunciation of unusual words and names, English and foreign. The successful candidate will be a graduate with a knowledge of several modern languages or extensive training in phonetics, a methodical mind, experience in indexing, accurate typing and tact.

Salary £7,758 - £10,127. Based Central London. Relocation expenses considered.

Contact us immediately for application form (quote ref. 2944/THS and enclose s.a.e.) BBC Appointments, London, W1A 1AA. Tel. 01-580



## NGEE ANN POLYTECHNIC Republic of Singapore

Invites applications from suitably qualified persons for appointment as Lecturing Staff in the following Departments/Centres:

- Building
- Electrical and Electronic Engineering
- Mechanical Engineering
- Shipbuilding and Repair Technology
- Mathematics and Science

### The Institution

Ngee Ann Polytechnic is a premier Government Polytechnic offering diploma courses equivalent to HND standard. The Polytechnic has a student enrolment of 4,900 and a full-time academic staff strength of 308 in the current academic year. The student population is expected to increase to 9,000 by 1986 with a proportionate increase in staff strength. The current annual operating budget of \$16.5m is expected to be increased to \$70m. The medium of instruction is English.

### Qualifications

Candidates must have a good and recognised University Degree and/or professional qualifications in a relevant field and have at least two years relevant industrial/teaching experience. However, preference will be given to candidates with experience/expertise in the following areas:

#### a) Building

Electrical Engineering, Building Services and Environmental Engineering.

#### b) Electrical and Electronic Engineering

- (1) Power & Industrial Electronics
- (2) Telecommunication (Digital Communication & Microwave Technology)
- (3) Computer Control & Instrumentation
- (4) Robotics & Automation
- (5) Computer/Microprocessor Technology & Application
- (6) Electronic Measurement

#### c) Mechanical Engineering

- (1) Computerised Machining
- (2) Robotics
- (3) CAD/CAM
- (4) Instrumentation & Control
- (5) Refrigeration & Air-Conditioning
- (6) Computer Application
- (7) Engineering System Design

#### d) Shipbuilding and Repair Technology

Towing Tanks, Offshore Engineering, Shipbuilding/Ship Design and Marine Electro-technology.

#### e) Mathematics and Science

Professional computer experience together with experience in teaching and research in Computer Science.

### Gross Annual Emoluments

Gross Annual Emoluments range from S\$27,113-S\$94,828. (The present rate of exchange is £1 = S\$3.23)

The above figures include a current 13-month allowance and a 22% employer's contribution to the Singapore Central Provident Fund.

The levels of appointment and points of entry into the above salary range will be dependent upon qualifications and experience. Applicants need only apply for a Lecturing Appointment, giving details of qualifications and experience, and the Polytechnic will decide on final offer after interview.

### Terms and Conditions of Service

Singaporeans and Malaysians will be offered appointments on local terms. Other successful candidates will be appointed on contract of three years' duration. Successful applicants will also be eligible for medical/dental benefits, membership of Central Provident Fund, free air passage for employee, wife and children, children's education allowance, housing allowance, commuted board and lodging allowance, baggage allowance, etc. Applicants will be supplied with details of terms and conditions of service if they are shortlisted for interview.

### Applications

For application forms, please write to the address shown below enclosing a stamped self-addressed envelope or call personally to the:

Singapore High Commission, 5 Cheong Street,  
London SW1, United Kingdom.

Applications close on 10 days after advertisement.

DEPARTMENT OF COMMUNITY  
Liaison, University of  
Alameda, 1000 University  
Avenue, Alameda, CA 94501  
Inquiries with applicants  
should be sent to the  
Department of Community  
Liaison, University of  
Alameda, 1000 University  
Avenue, Alameda, CA 94501

PLEASE  
MENTION THE  
T.H.E.S.  
when  
replying to  
advertisements

## DEAKIN UNIVERSITY GEELONG

### Postdoctoral Research Fellowships

Deakin University offers postdoctoral research fellowships for full-time research in any School of the University. Applicants should have Australian permanent residency status, be eligible for admission to the degree of Doctor of Philosophy or have at least equivalent postgraduate research experience, and have completed their last postgraduate degree not more than five years prior to application.

Fellowships are normally tenable for two years with a review after the first year and the possibility of an extension to a third year. The salary will be at Senior Tutor level 1 in the first year (currently \$19,338) and at Senior Tutor level 2 in the second year (currently \$21,859).

Applications close 31 October. Enquiries and applications should be directed to: Registrar, Deakin University, Victoria 3217.

## STATE OF KUWAIT

### University of Kuwait

University of Kuwait invites applications for the posts of Professors, Assistant Professors and Lecturers, for the academic year 1984/85 tentative for 1st September 1984, in the following disciplines:

#### 1 FACULTY OF SCIENCE

- (i) Mathematics Department: Computer Science, Numerical Analysis, Statistics.
- (ii) Physics Department: Electronics, Atomic Physics, Molecular Physics, Theoretical Physics.
- (iii) Biochemistry Department: Biochemical Genetics or Enzymology. (Visiting Professor for a contract of one or two years).
- (iv) Botany and Microbiology Department: Microbial Physiology, Microbial Ecology, Plant Taxonomy of Flowering Plants, Paleobotany.
- (v) Zoology Department: Genetics, Desert Ecology, Comparative Animal Physiology, General Zoology.
- (vi) Geology Department: Geophysics-Tectonics, Crystallography, Mineralogy, Metamorphic Petrology, Isotopic Geochemistry.

#### 2 FACULTY OF ARTS

- (i) Arabic Language & Literature Department: Literature and Criticism, Grammar and Morphology.
- (ii) History Department: History of the Ancient Near East, History of Africa, History of Arab Islamic Civilization.
- (iii) Philosophy Department: Islamic Philosophy.
- (iv) Psychology Department: Organizational Psych., Experimental Psych., Physiological Psych., Counseling (especially with family), Learning, Psycholinguistics.
- (v) Sociology & Social Work Department: Cultural Anthropology, Pre-Historic Archaeology, Physical Anthropology, All Fields of Sociology, All Fields of Social Work.

#### 3 FACULTY OF LAW

- (i) Private Law Department: Civil Law, Comparative Law.
- (ii) International Law Department: Public International Law, Private International Law.

#### 4 FACULTY OF SHARI'A AND ISLAMIC STUDIES

- (i) Fiqh and Usul al Fiqh Department: Al Fiqh.
- (ii) Tafsir and Hadeeth Department: Tafsir, Hadeeth.
- (iii) Aqeedah and Daa'wah Department: Aqeedah, Daa'wah.
- (iv) Fiqh Muqaran & Seyasah Shari'ah Department: Seyasah Shari'ah, Fiqh Muqaran.

#### 5 FACULTY OF COMMERCE, ECONOMICS & POLITICAL SCIENCE

- (i) Accounting and Auditing Department: Accounting, Information Systems, Accounting Theory, Financial Accounting, Advanced Accounting.
- (ii) Business Administration Department: Marketing, Finance, Organization and Personnel, Industrial Management.
- (iii) Economics Department: (Lecturer or Asst. Prof.) Economic History (Econ. Thought), Economic Theory (Welfare Economics).
- (iv) Political Science Department: Political Research Methodology, Comparative Politics, International Relations, Political Ideology.
- (v) Statistics and Insurance Department: Applied Statistics, Computer (Preferable Statistical Computing), Insurance.
- (vi) Public Administration Department: Public Administration.

#### 6 FACULTY OF ENGINEERING & PETROLEUM

- (i) Civil Engineering Department: Sanitary Environmental Engineering, Construction Management.
- (ii) Electrical Engineering Department: (Asst. Prof. or Prof.) Energy Sources & Systems, Computer Engineering & Digital Systems, Signal Processing & Communication Systems, Control & Systems Theory, Electronic Circuits and Devices.
- (iii) Mechanical Engineering Department: (Asst. Prof. or Prof.) Thermal Fluid Sciences, Steam and Gas Turbines, Refrigeration and Air-conditioning, and related subjects.
- (iv) Chemical Engineering Department: (Asst. Prof. or Prof.) Kinetics, Reactor Design and Catalysis, Adsorption and Ion Exchange, Corrosion and Electrochemical Engineering, Desalination, Natural Gas Processing, Air and Water Pollution, Multicomponent Distillation with Industrial Experience in Petroleum Refining.

#### 7 FACULTY OF EDUCATION

- (i) Foundations of Education Department: Kindergarten and Elementary Education.
- (ii) Curriculum & Instruction Department: Curriculum & Instruction (Arabic Language and Children Literature), Educational Technology.

- a) All applicants must hold Ph.D. Degree or its equivalent.
- b) English is the medium of instruction in the Faculties of Science and Engineering & Petroleum. For the other subjects will be in Arabic.
- c) Method of teaching at Kuwait University is based on the credit hour system.

Applications should be submitted not later than 28th December, 1983, on the application forms which can be obtained from Cultural Attache Offices, Kuwait Embassies in London or in Washington.

Salaries classified:  
Professor: KD 1,070/- -- KD 1,230/-  
Assistant Professor: KD 875/- -- KD 1,035/-  
Lecturer: KD 680/- -- KD 840/-  
Occupational allowance will be given to Professor (KD 105/-), Assistant Professor (KD 87/-) and Lecturer (KD 44/-) only for Faculty of Engineering.  
Present exchange rate for 1 KD = £2.26; \$3.40 approx.  
Benefits: Annual air passage for the successful, his wife and up to three children below 20 years. Children's tuition allowances up to Secondary School level in accordance with University regulations. One month basic salary, gratuity at the end of the contract for each year served. Summer and mid-semester paid leaves.  
Application together with a copy not returned of the academic qualifications and the candidate's curriculum vitae should be sent by registered post directly to the Department of Administrative Affairs, Kuwait University, P.O. Box 9999, Kuwait, not later than 28th December 1983.

# THE TIMES SUPPLEMENTS REPRINT SERVICE

## Leverhulme Report

— a four page edited version of the final report of the programme. First published in the *THES* May 27, 1983. Price 25p

## Information Technology

— An eight page report on the latest development of IT in our universities, polytechnics and colleges. First published in the *THES* June 17, 1983. Price 80p

## Education & Training for Employment

— A further report on this very important area of education examines developments which have taken place since last year. First published in the *THES* July 1, 1983. Price 70p

## THES Peer Review

— A six page reprint (4 pages of editorial matter) combining two surveys carried out by the *THES* to discover how academics in eight disciplines regard the standing of their subjects. First published in the *THES* December 1982 and August 1983. Price 50p

All prices include postage and packing within the UK, but not hand delivery or Red Star delivery.

Enquiries about other reprints available, should

be sent to

Linda Bartlett at the address below

Telephone: 01-253 3000

Please send me the following reprints:

Leverhulme Report at 25p each

Information Technology at 80p each

Education & Training at 70p each

THES Peer Review at 50p each

Name .....

Address .....

I enclose my cheque/postal order made payable to Times Newspapers Limited (no cash please) the sum of ..... Signed .....

Please send this coupon to:  
Frances Goddard, The Times Supplements  
Priority House, St John's Lane, London EC1M 4BX.



# Don's diary

## Monday

Flying westwards from Lagos into a tropical sunset is a memorable, colourful and uplifting experience. We are brought down to earth in more ways than one by the seemingly interminable formalities of passport and visa control, exchange control, health control etc all carried out slowly in a hot, dusty corridor at Kotoka Airport. We then reclaim our baggage which includes such basics as paper, pens, textbooks and many photocopied handouts, because of the limited resources here.

We then see the very welcome sight of the British Council rep and a welcoming party from our hosts, the West African Examinations Council (WAEC). We have also attracted the attention of large numbers of locals who wish to "help" with luggage, or because "white = rich" in their eyes, ask for cigarettes, money, or try to sell us anything and everything. This entire group then descends on the one customs official who checks baggage. Chaos reigns, but eventually all is sorted out and we reach our hotel before the 10.00pm curfew.

## Tuesday

The course begins. It is difficult to convey the contrasts with the UK. The attitude to time is one example. We are picked up by coach at the hotel 40 minutes late, which is regarded by all hands as not bad by African standards. We are taken to the University of Ghana at Legon where much formality and many speeches of welcome mark the official opening of the training session.

We are here to begin a process of localization for commercial education in Ghana to eventually replace the UK examinations which they currently use. The course is to train potential examiners for the WAEC, and over the next two and a half weeks, we are to cover all aspects of examining, besides syllabus development to cover the requirements of Ghana. This can only be a good thing. At the moment, candidates take UK set examinations which are very highly rated here but which are not relevant to their lives in Ghana. For example, questions about hypermarkets and use of credit cards must be meaningless to the students, given the society they live in. The course content and examinations must reflect the needs of the society. A fine aim, but difficult to achieve in practice especially in the current economic crisis.

Much of the first morning is spent checking the credentials of trainees. Eventually, about 15 are excluded having tried to join the course using forged invitations. It would be flattering to think that this was because of the academic content of the course but a more likely explanation is the attraction of the three meals per day the trainees are to receive. In the current economic crisis, middle class families find great difficulty in obtaining enough food for more than one meal a day.

## Wednesday

The trainees from middle management, education and the public sector are extremely keen and enthusiastic. I make strenuous efforts to pronounce their names correctly - to much hilarity. The Ghanaians often have forenames based on which day of the week they were born. I discover that, being Saturday born, my day name would be Kwame.

Make good progress. It is most pleasant to have such a committed audience in return for my lectures. They enter the discussions on the syllabus localization with great relish.

There is a lively debate on content - what should be included now and what should be added when technological developments begin to affect the commercial activity in Ghana. It is difficult to break the circle - where teachers have not the experience, books or equipment to explain new developments to students, which in turn slows the development process.

## Thursday

All Ghana's universities have been officially closed since mid-May for political reasons. We have, through the lobbying of the WAEC, been given permission to use the school of administration for the training session. The campus is beautiful but shows signs of decay and neglect. There is no money or equipment for repairs and much other equipment is unusable because of the absence of, often minor, spare parts.

The polytechnics in Ghana, being approximately equivalent to our colleges of further education, are still open, but are suffering drastically from a lack of usable technical equipment and book. Even at Legon - the major university of the country - the library stock is totally out of date. The marketing section seems to consist of about half a dozen dated books on advertising in the UK.

When the students occupied the universities in May, calling for a return to democracy, the government's reply was to close all three universities. The result of this is that there have been no final examinations held and consequently no graduates at all in Ghana last session.

If and when they are reopened - negotiations at the moment are only tentative - the first priority will be to complete the last academic session before a new intake can be admitted.

## Friday

The trainees show signs of unrest because of their accommodation problems - no running water and very limited sanitation. This is a common problem - our hotel has running water for only about three hours each morning. It is necessary to keep a supply in the bath for use the rest of the day.

The economic crisis is such that the currency is showing signs of collapse. The state set minimum wage of 20 cedis per day, which compares to the take home pay of £200 per week for a middle management accountant, needs to be seen in the light of prices such as a small loaf of bread at £20, eggs at £10 each and the ubiquitous Mars bar at £40. Petrol has doubled to £25 per gallon since April, is rationed to six gallons per week but because of shortages, can involve queuing for up to three days. Exchange rate conversions are quite complex. The official rate is about £4.5 to the £, but following negotiations with the IMF and to obtain foreign currency, it is possible to exchange travel cheques at banks at £4.4 to the £.

## Saturday

The course continues on Saturday morning, 8.30am-12.30pm, following which we are taken to see a performance of the National Folk Dance Company which performs dances from the various regions of the country. It is quite spectacular - an amazing experience.

A tour around Accra follows and we see the utter poverty of many areas. It is extremely sad to see. Although the training course will help the country in the medium and long term, one feels helpless in the face of the immediate problems facing the country. The people we meet seem cheerful and welcoming despite all the problems.

## Sunday

Early morning jogging before it becomes too hot, followed by a visit to a local church for an interdenominational service. The church is full to overflowing and we hear a sermon on "peace" which seems to be a reply to the violence in yesterday's government-controlled newspapers which had accused the church of not taking sufficient part in the revolutionary process.

All in all, an informed, highly emotive, unstable situation to be in and we have another lovely day.

Trevor Watkins

The author is principal lecturer in marketing at Sunderland Polytechnic.

Map, compass, emergency rations, strong shoes, hip-flask and whistle - the season is over for me, no more walking in the Peak, the Pentlands, or the Snowdon horseshoe, but back to London and the Barbican (when Birkbeck's anti-social hours allow). Regular readers of this column will know what a painful subject this is to me. I've been a regular supporter of the Royal Shakespeare Company ever since they swanned down to London. On the whole it has been pleasant: support in my book, not conditional on a string of winners.

Indeed to tell the truth (and to refute Benjamin in passing), the psychology of the true regular is a bit sadomasochistic. We do like to have a go at our own side and some of the victories leave us cold. I'm tottering into the football metaphor. But I've worked that to death (I thank several correspondents and two old friends).

I'll only say this: that with patience and time (as Papa Kutzor remarked), or by taking a long view of it, I'm no longer upset that in trying to keep up with my son (that psychologist fellow was quite right) I once deserted Arsenal for QPR - the wheel has turned full circle.

No, just a brief paragraph on my other paradigm of both irrational loyalty and patience and time - as with QPR, the Labour Party is looking up a little at the moment. I was happy to accept the invitation of the "Neil Kinnock campaign" to attend a victory party at the Metropole Hotel, Brighton on last Sunday. ("Cash bar" said the card, and a surprising number of friendly journalists had rejoined the attack of half-back to buy the drink, always a good sign.)

With foreboding of the week (the year and the half decade) ahead of them, there was hardly a mood of mad triumphalism, but there was at least a very pleasant lack of furtiveness among the ever so many who claimed to have helped and to be still fit for another season. It contrasted well with trying to get old pals to admit whether they were still talking to Wootton or Coxworth. Regular supporters and the press seemed to radiate optimism that the new manager is a good thing that could stop the rot. It is the team that is watching.

Only the night before I'd killed up, as I have said, to return to the Barbican to show my painful loyalty. After all, Orwell did not say that a writer could not be a member of a political party, only not "a loyal member" (well, I haven't mentioned him for three months). Indeed I showed quite stupid courage by descending, for the first time, to the Pit, the Pits, of course, the Barbican centre's very own Theatre of the Space and the Theatre of the Space, small and fixed-seated.

The seating can even be stripped right out for promenade-style productions (which having such a well-trained

## Short, sharp effects down in the pit



Bernard Crick

audience they can attempt without real trouble). Alas, two years ago I saw a good student production turn to chaos because the audience was not used to standing around. Some elderly and infirm relatives actually needed seats and most of us were plainly only able to endure with calmness the uncertainties of student modern theatre if we had the familiar pressure of even an uncomfortable seat against the backside.

It is especially hard to find The Pit; you actually have to cross an underground road with a lot of confused traffic uncertain whether to put down or pick up. I was torn between agoraphobia and claustrophobia, as if at a Tribunal or on Arsenal's north bank.

Now there are two sorts of things done by both the RSC and the National in their little theatre, and this was very much the other: classical theatre done as chamber music, all very close and intimate and perfect, not the modern disturbed, experimental and crash-through-it stuff. It was, indeed, Mollere's Tartuffe itself, said to be the most frequently produced play in the French language, now in what sounded a most plausible and natural translation by Christopher Hampton and produced by Bill Alexander.

Surprisingly it suited a completely open and surrounded setting space. We sat four yards from the well-laden table at which, for the whole first scene, the family of Orgon discuss his obsession with the hypocrite Tartuffe.

The original version of the play as privately performed by Louis XIV in 1664, five years before he agreed to license it, was called Tartuffe ou l'Hyppocrite. Tartuffe is called "a hypocrite"

in the RSC east line although the title given as Tartuffe or The Impostor. Beautifully acted and in such chamber conditions, the smallest fudged note rings false: their old ensemble playing at its best, a real bourgeois family in a real meal.

Elmire (Sylvia Colledge) at first says little, but while worried radiates patient calm that with time her best husband will come to his senses again. Filopete her maid (Sara Maud Thomas), virtually a member of the family, rattles him pitifully about Tartuffe's treachery, and Cleante, Elmire's brother, makes his famous speech in favour of moderation, in religion as in all else - Elmire, a politique statesman (he would not have liked the revolution of the Edict of Nantes). Scillon has an audience's curiosity by her more due to the significant difference in unit costs between the two sectors, to the obvious damage which would be done to academic standards as unit costs were further reduced, and to the overall reduction in access to higher education underlying the whole exercise.

Now, it seems, our efforts are crowned with magnificent success: having reduced the unit costs and the numbers of students in the sector which is already the cheaper, the Department of Education and Science wishes to send more students to the more expensive sector. This is not just

Enlightened minds. Sir, - These among your readers who are technologists may have been puzzled by the title given to Professor R. Gregory's article (Mind versus mechanisms, THES, September 9). They will not have found enlightenment by reading on. At one point we are told, with admirable brevity: "Master occupies space but mind does not". Yet elsewhere, after a 56-word convoluted sentence, we learn: "(this is) the key to how physical systems may be mind". So physical systems may not occupy space? A new metaphysical concept?

The taboo word "teleology" does not appear in the piece, but makes its disguised appearance as "intention". This leads into a most welcome demolition job on behaviourism which, we are told with great certainty in the shortest sentence, is dead. Unhappily, at the end of the same paragraph we are informed that "behaviourism is becoming mind-like".

Can Professor Gregory tell us of a single example of a mechanism which has not originated in a mind? The abstract concept of the "specification" is familiar to engineers and architects, and also, nowadays, to programmers and information technologists (who may use a different name for it). The fact that a specification may also take physical form in drawings, documents and instructions must not obscure its mental basis.

The real problems to which one would hope professors of brain and perception were addressing themselves are these. How can influences lacking location in space, and therefore unable to exercise a force, affect the location in space of physical particles? How can the random and unconscious forces and impulses impinging upon living organisms affect the real entities (mindful or not) outside space which relate to them?

These matters received sustained discussion in the writings of the late Professor R. O. Kapp, an eminent electrical engineer, the first of which, a title remarkably similar to, and more acceptable than, that of Professor Gregory's article, namely Science versus materialism. Perhaps Professor Gregory should spend a little more time in the engineering departments and a little less among the life scientists.

Yours faithfully,  
D. H. TOMPSETT  
2 Kilm Lane,  
Miltonborough, Northants.

## Oxford funds

Sir, - May I refer to an item which appeared in your columns last week about Oxford University and funds raised for research. The headline, to the effect that we are reluctant to raise funds, was grossly misleading, as the university's long sustained success in funding research sufficiently proves. Thus in the last financial year, in addition to numerous benefactions the university secured grants for research totalling £2.7m. That the university is unable to seek funds from outside sources is evident from your own report.

Yours faithfully,  
G. WARNOCK  
Chairman of the Engineering

The author is president of the National Union of Students.

## LETTERS TO THE EDITOR

### The strange logic of robbing low cost Peter to pay high cost Paul

Sir, - Just what are we supposed to make of the news that additional places should be found in the universities over the next two years simply because the NAB exercise has finally appeared to make too few places available in the public sector? (THES, September 30).

Many of us have tried desperately, albeit reluctantly, over the last year to draw up as sensible academic plans as possible within the broad framework of the NAB requirements, while at the same time repeatedly drawing attention to the significant difference in unit costs between the two sectors, to the obvious damage which would be done to academic standards as unit costs were further reduced, and to the overall reduction in access to higher education underlying the whole exercise.

Now, it seems, our efforts are crowned with magnificent success: having reduced the unit costs and the numbers of students in the sector which is already the cheaper, the Department of Education and Science wishes to send more students to the more expensive sector. This is not just

Enlightened minds.

Sir, - Your leading article on "Non-operative" system based, dare I say, on the polytechnics and on very few larger institutions which already provide the vast bulk of non-university higher education. Let it also be said that many polytechnics are now multi-site institutions, providing both quality and access over a wider geographical area.

There are already in existence up and down the country well documented examples usually under the aegis of the Council for National Academic Awards of cooperative arrangements in higher education between institutions which work well. This provision crosses local authority (and regional?) boundaries and can involve the voluntary colleges and direct grant institutions as well as the "maintained" public sector colleges; in short, it is largely independent of institutional status. The provision can operate at sub-degree, degree, or postgraduate level, through many different modes of attendance.

We in Wolverhampton, for instance, currently operate a BSc (sandwich) in agricultural technology and an HND

engineering department of a polytechnic wholly housed in satisfactory accommodation that was purpose-built and fully met present day needs."

On staffing generally the HMI comment: "Occasionally - overall staff student ratios have tended to rise the fact that departments cannot provide adequate cover for all parts of the course."

It adds: "The burden of non-teaching, routine administrative duties - admission arrangements, course supervision, year and pastoral tutorships, collection and collation of statistical data, counselling of students - makes great demands upon the individual tutor's time."

It also says: "A considerable programme of in-service training will be needed if the polytechnics and colleges are to avoid the beginnings of academic stagnation and the loss of contact with current industrial practice. Observed reductions in the use of part-time staff will also exacerbate this trend."

Realization of this may help to explain some of the recent correspondence in THE THES re architectural research and its value.

Your report of September 23 referred to as RIBA/CUK keynote paper by Professor John Tam, who is also a member of the UGC. What he has to say about architectural research confirms the opinions expressed by correspondents in recent weeks: "Unfortunately, the research base for architecture has not yet been adequately substantiated... there is still uncertainty about the nature and value of architectural research..."

should be an emphasis upon that research which benefits the practice of architecture and leads to better buildings. A concerted effort will be needed to disseminate the findings of such research throughout the profession. Research and development linked to good quality practice is important for the future of architecture." (RIBA/September 1983, p 50).

These conclusions stem from the fact that despite 15 years or more of research activity in schools of architecture it is not possible to identify one piece of research which has

emerged in a form which is of practical use in the profession. On the other hand architects in practice have been doing research and development on manufacturers products and building materials as part of specifications for as long as the modern profession has existed. A further conclusion might be drawn from Professor Tam's observations - that the bulk of teachers of architecture should be practising architects. It is worth noting that the "Finalist report on the engineering profession, 1980, para 4.83" recommends the introduction of a system of recognition, accorded by the Engineering Authority, for engineering teachers who are registered engineers and who meet criteria laid down regarding their industrial experience, and their continuing involvement with industry, as well as their academic standing... the criterion for appointment should be industrial achievement as an engineer."

Yours faithfully,  
CHARLES THORNTON,  
53 Redcliffe Gardens,  
London SW7.

Merger decision

Sir, - The merger of Bedford and Royal Holloway Colleges may clearly be an economic necessity. However, the disposal of the Regent's Park site to raise funds for development at Egham is a scandalous decision. Its location as an educational establishment, based in a beautiful Royal park, following an employer-led initiative, we have created Stevenage Youth Training Limited, which from the outset has involved the whole community.

I fully accept we cannot be sure of finding firm jobs at the end of their year's training but, surely, this is no reason for "doing nothing" - just a few of the critics got up and helped instead of just carrying, we might be able to develop something really worthwhile nationwide.

Yours faithfully,  
P. DANIEL  
Chairman of Stevenage Youth Training Ltd. group executive director, administration British Aerospac plc.

independent and rigorous in their surveillance. Thus to lump all employers together in this dismissive way is unfair and destructive.

YTS needs constructive comment and support, especially from those quarters where one expects a thorough understanding of the many problems which surround it. Here at Stevenage, following an employer-led initiative, we have created Stevenage Youth Training Limited, which from the outset has involved the whole community.

I fully accept we cannot be sure of finding firm jobs at the end of their year's training but, surely, this is no reason for "doing nothing" - just a few of the critics got up and helped instead of just carrying, we might be able to develop something really worthwhile nationwide.

Yours faithfully,  
P. DANIEL  
Chairman of Stevenage Youth Training Ltd. group executive director, administration British Aerospac plc.

independent and rigorous in their surveillance. Thus to lump all employers together in this dismissive way is unfair and destructive.

YTS needs constructive comment and support, especially from those quarters where one expects a thorough understanding of the many problems which surround it. Here at Stevenage, following an employer-led initiative, we have created Stevenage Youth Training Limited, which from the outset has involved the whole community.

I fully accept we cannot be sure of finding firm jobs at the end of their year's training but, surely, this is no reason for "doing nothing" - just a few of the critics got up and helped instead of just carrying, we might be able to develop something really worthwhile nationwide.

Yours faithfully,  
P. DANIEL  
Chairman of Stevenage Youth Training Ltd. group executive director, administration British Aerospac plc.

independent and rigorous in their surveillance. Thus to lump all employers together in this dismissive way is unfair and destructive.

YTS needs constructive comment and support, especially from those quarters where one expects a thorough understanding of the many problems which surround it. Here at Stevenage, following an employer-led initiative, we have created Stevenage Youth Training Limited, which from the outset has involved the whole community.

I fully accept we cannot be sure of finding firm jobs at the end of their year's training but, surely, this is no reason for "doing nothing" - just a few of the critics got up and helped instead of just carrying, we might be able to develop something really worthwhile nationwide.

emerged in a form which is of practical use in the profession. On the other hand architects in practice have been doing research and development on manufacturers products and building materials as part of specifications for as long as the modern profession has existed. A further conclusion might be drawn from Professor Tam's observations - that the bulk of teachers of architecture should be practising architects. It is worth noting that the "Finalist report on the engineering profession, 1980, para 4.83" recommends the introduction of a system of recognition, accorded by the Engineering Authority, for engineering teachers who are registered engineers and who meet criteria laid down regarding their industrial experience, and their continuing involvement with industry, as well as their academic standing... the criterion for appointment should be industrial achievement as an engineer."

Yours faithfully,  
CHARLES THORNTON,  
53 Redcliffe Gardens,  
London SW7.

Merger decision

Sir, - The merger of Bedford and Royal Holloway Colleges may clearly be an economic necessity. However, the disposal of the Regent's Park site to raise funds for development at Egham is a scandalous decision. Its location as an educational establishment, based in a beautiful Royal park, following an employer-led initiative, we have created Stevenage Youth Training Limited, which from the outset has involved the whole community.

I fully accept we cannot be sure of finding firm jobs at the end of their year's training but, surely, this is no reason for "doing nothing" - just a few of the critics got up and helped instead of just carrying, we might be able to develop something really worthwhile nationwide.

Yours faithfully,  
P. DANIEL  
Chairman of Stevenage Youth Training Ltd. group executive director, administration British Aerospac plc.

independent and rigorous in their surveillance. Thus to lump all employers together in this dismissive way is unfair and destructive.

YTS needs constructive comment and support, especially from those quarters where one expects a thorough understanding of the many problems which surround it. Here at Stevenage, following an employer-led initiative, we have created Stevenage Youth Training Limited, which from the outset has involved the whole community.

I fully accept we cannot be sure of finding firm jobs at the end of their year's training but, surely, this is no reason for "doing nothing" - just a few of the critics got up and helped instead of just carrying, we might be able to develop something really worthwhile nationwide.

Yours faithfully,  
P. DANIEL  
Chairman of Stevenage Youth Training Ltd. group executive director, administration British Aerospac plc.

independent and rigorous in their surveillance. Thus to lump all employers together in this dismissive way is unfair and destructive.

YTS needs constructive comment and support, especially from those quarters where one expects a thorough understanding of the many problems which surround it. Here at Stevenage, following an employer-led initiative, we have created Stevenage Youth Training Limited, which from the outset has involved the whole community.

I fully accept we cannot be sure of finding firm jobs at the end of their year's training but, surely, this is no reason for "doing nothing" - just a few of the critics got up and helped instead of just carrying, we might be able to develop something really worthwhile nationwide.

Yours faithfully,  
P. DANIEL  
Chairman of Stevenage Youth Training Ltd. group executive director, administration British Aerospac plc.

independent and rigorous in their surveillance. Thus to lump all employers together in this dismissive way is unfair and destructive.

YTS needs constructive comment and support, especially from those quarters where one expects a thorough understanding of the many problems which surround it. Here at Stevenage, following an employer-led initiative, we have created Stevenage Youth Training Limited, which from the outset has involved the whole community.

I fully accept we cannot be sure of finding firm jobs at the end of their year's training but, surely, this is no reason for "doing nothing" - just a few of the critics got up and helped instead of just carrying, we might be able to develop something really worthwhile nationwide.

emerged in a form which is of practical use in the profession. On the other hand architects in practice have been doing research and development on manufacturers products and building materials as part of specifications for as long as the modern profession has existed. A further conclusion might be drawn from Professor Tam's observations - that the bulk of teachers of architecture should be practising architects. It is worth noting that the "Finalist report on the engineering profession, 1980, para 4.83" recommends the introduction of a system of recognition, accorded by the Engineering Authority, for engineering teachers who are registered engineers and who meet criteria laid down regarding their industrial experience, and their continuing involvement with industry, as well as their academic standing... the criterion for appointment should be industrial achievement as an engineer."

Yours faithfully,  
CHARLES THORNTON,  
53 Redcliffe Gardens,  
London SW7.

Merger decision

Sir, - The merger of Bedford and Royal Holloway Colleges may clearly be an economic necessity. However, the disposal of the Regent's Park site to raise funds for development at Egham is a scandalous decision. Its location as an educational establishment, based in a beautiful Royal park, following an employer-led initiative, we have created Stevenage Youth Training Limited, which from the outset has involved the whole community.

I fully accept we cannot be sure of finding firm jobs at the end of their year's training but, surely, this is no reason for "doing nothing" - just a few of the critics got up and helped instead of just carrying, we might be able to develop something really worthwhile nationwide.

Yours faithfully,  
P. DANIEL  
Chairman of Stevenage Youth Training Ltd. group executive director, administration British Aerospac plc.

independent and rigorous in their surveillance. Thus to lump all employers together in this dismissive way is unfair and destructive.

YTS needs constructive comment and support, especially from those quarters where one expects a thorough understanding of the many problems which surround it. Here at Stevenage, following an employer-led initiative, we have created Stevenage Youth Training Limited, which from the outset has involved the whole community.

I fully accept we cannot be sure of finding firm jobs at the end of their year's training but, surely, this is no reason for "doing nothing" - just a few of the critics got up and helped instead of just carrying, we might be able to develop something really worthwhile nationwide.

Yours faithfully,  
P. DANIEL  
Chairman of Stevenage Youth Training Ltd. group executive director, administration British Aerospac plc.

independent and rigorous in their surveillance. Thus to lump all employers together in this dismissive way is unfair and destructive.

YTS needs constructive comment and support, especially from those quarters where one expects a thorough understanding of the many problems which surround it. Here at Stevenage, following an employer-led initiative, we have created Stevenage Youth Training Limited, which from the outset has involved the whole community.

I fully accept we cannot be sure of finding firm jobs at the end of their year's training but, surely, this is no reason for "doing nothing" - just a few of the critics got up and helped instead of just carrying, we might be able to develop something really worthwhile nationwide.

Yours faithfully,  
P. DANIEL  
Chairman of Stevenage Youth Training Ltd. group executive director, administration British Aerospac plc.

independent and rigorous in their surveillance. Thus to lump all employers together in this dismissive way is unfair and destructive.

YTS needs constructive comment and support, especially from those quarters where one expects a thorough understanding of the many problems which surround it. Here at Stevenage, following an employer-led initiative, we have created Stevenage Youth Training Limited, which from the outset has involved the whole community.

I fully accept we cannot be sure of finding firm jobs at the end of their year's training but, surely, this is no reason for "doing nothing" - just a few of the critics got up and helped instead of just carrying, we might be able to develop something really worthwhile nationwide.

### Palestinian protests

Sir, - As college lecturers recently returned from a visit to Israel and the occupied territories of the West Bank and Gaza, we feel obliged to draw your readers' attention to the plight of the Palestinian universities and higher educational institutions. The massacre at Hebron university, an act apparently perpetrated by Israeli settlers, in which three died and over 30 were wounded was well publicized in Britain. However, fewer people will be aware that the Israeli authorities responded to this terrorist act by imposing a curfew upon the Arab population of Hebron. Although the killers are believed to have come from the Israeli settlement at Kiryat Arba, no curfew was imposed there. Needless to say, as with other acts of violence against Palestinians, no arrests have been made by the Israeli authorities.

Protests by students at Bir Zeit University near Ramallah which followed the killings provided the pretext for further harassment. The day after the demonstration, in which two students received gunshot wounds from the Israeli military, 26 students were arrested and charged with stone throwing. Sentences imposed by the military courts ranged from 18 months to two years imprisonment. In each case, these convictions were based on the unsupported testimony of individual soldiers. Israelis charged with similar offences during our visit were punished by small fines.

These events emphasized the brutal Israeli repression. More insidiously, the Arab universities are not allowed to purchase many periodicals published in Arabic. Many books on the Middle East, freely available in the Israeli universities, are banned by the censors in Palestinian institutions. A recent regulation requiring foreign teaching staff to sign a declaration of opposition to the Palestinian Liberation Organization before a work permit is granted has effectively blocked all new overseas appointments. To local teaching staff, the threat of arrest, imprisonment, or even deportation (as was the fate of the president of Bir Zeit University) is ever present.

We therefore salute the courage of our Palestinian colleagues who persevere in such adverse conditions. As members of the National Association of Teachers in Further and Higher Education we call upon the teachers' trade unions and the National Union of Students to campaign against Israeli harassment of Palestinian higher education. We urge all educators who have contacts with such academic institutions to demand that they pressurize their government in end this repression. Surely academic links with Israeli institutions must be at risk if this disgraceful situation is allowed to continue.

Yours faithfully,  
JOHN CONNELLY,  
Ealing College of Higher Education, London.

DUNCAN MACPHERSON, St. Mary's College, Strawberry Hill, Twickenham.

PETER SMITH, Kingston College of Further Education, Surrey.

Tail storey

Sir, - It is valuable to see a discussion of the Popper concept of fallibility in your columns (THES, September 23). Colin Radford asks "what cogent reasons can Popper provide for his claim that we should prefer highly corroborated theories?" On the assumption that scientific theories are intended to be useful as a guide to future action, I illustrate this concept to my students by an argument which may be paraphrased as follows:

"Past experiments have shown that persons who fall from 100 storey buildings without the benefit of artificial means of reducing their speed of descent find the experience fatal. This does not prove that if you fall (or jump) from a 100 storey building, you will die. However, until you have evidence to the contrary, it is a good working hypothesis to assume that you will."

If Colin Radford finds this approach too "Johnsonian", perhaps he could write again after he has tested the hypothesis.